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GUIDANCE MANUAL ON THE RCRA (RESOURCE CONSERVATION AND RECOVERY ACT) REGULATION OF RECYCLED HAZARDOUS WASTES

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GUIDANCE MANUAL ON THE RCRA REGULATION OF RECYCLED HAZARDOUS WASTES

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This report is a document to provide guidance to States and persons who recycle materials or persons who generate materials that are recycled to determine how EPA's Definition of Solid Waste rulemaking applies to them. This regulation deals with the question of which materials are solid and hazardous wastes when they are recycled (i.e., the effect of the rule is to clarify the extent of EPA's jurisdiction over hazardous waste recycling activities and to set forth the regulatory regime for recycling activities subject to EPA's control. Because the rule is complex, guidance is provided primarily in the form of over 100 examples illustrating the application of the rule to actual recycling practices. The examples will help persons interested in similar cases determine whether a particular recycled material is subject to the RCRA Subtitle C requirements.

17. Document Analysis a. Descriptors

Solid waste	By-Product	Speculative accumulation
Hazardous waste	Use Constituting Disposal	Listed Wastes
Spent materials	Burning	Characteristic Wastes
Sludge	Reclamation	Use/Reuse

b. Identifiers/Open-Ended Terms

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THE PURPOSE OF THIS MANUAL

On January 4, 1985, the U.S. Environmental Protection Agency (EPA) amended the definition of solid waste used in regulations that implement Subtitle C of the Resource Conservation and Recovery Act of 1976, as amended (RCRA). This change (50 FR 614-668) primarily addresses the question of which materials are solid and hazardous wastes when they are recycled. In particular, the amendments define the Agency's jurisdiction under RCRA regarding materials that are considered solid wastes when they are recycled, and impose Subtitle C regulations on wastes that are hazardous and pose a substantial hazard to human health and the environment.

The purpose of this document is to provide guidance to State and EPA Regional personnel who must apply the new definition to determine which materials, when recycled, are solid and hazardous wastes.1/ In addition, persons who recycle materials or generate materials that are recycled may use this manual to determine which regulations apply to them. Because the rule is complex, guidance is provided primarily in the form of examples

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1/ RCRA defines a solid waste as any discarded material (except materials specifically excluded from designation as solid waste under 40 CFR 261.4 (a) or under a variance granted under 40 CFR 260.30 and 260.31). Discarded materials include both materials that are abandoned and materials that are recycled (40 CFR 261.2). This manual only concerns materials that are solid wastes when recycled. It does not address wastes that are abandoned.

illustrating application of the rule to actual recycling practices. These examples will help parties interested in similar cases determine whether a particular recycled material is subject to the RCRA Subtitle C requirements.

This manual considers only the provisions of Subtitle C of RCRA. Individual states may have extended regulation to materials or recycling practices not covered by the Federal regulations, or may impose additional requirements on materials or practices that are covered by Subtitle C of RCRA. The regulations applicable in each state must be reviewed to reach a final determination of the regulatory status of a given waste.

Users of this manual should exercise care in reaching conclusions about the regulatory status of recycling practices, to ensure that such practices fit exactly into one of the classifications presented. EPA retains final authority to judge the regulatory status of any recycling practice. Further, because the definition is subject to change, users should be certain to refer to the latest regulations. This manual will be updated periodically to reflect changes in the definition.

ORGANIZATION AND USE OF THE MANUAL

This manual is organized into three chapters:

- the Introduction, which provides an overview of the regulatory status of recycled wastes and defines the terms used in this manual;
- Examples of the application of the definition of solid waste to specific recycling practices; and
- an Index to the examples.

The remainder of this Introduction includes two sections. The next section provides an overview of the definition of solid waste, briefly defines categories of materials and activities that are relevant to determining whether a material is a solid (and hazardous) waste and thus is subject to Subtitle C regulations, and indicates which combinations of materials and activities are regulated. The second section provides more detailed definitions of specific activities, and for each type of activity discusses in detail what materials are subject to regulation.

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The Examples provided in the second chapter of the manual are organized for convenience primarily by type of recycling activity. The examples are presented in a worksheet format shown in Exhibit 1. This worksheet includes a series of questions that illustrates the steps necessary to categorize the sample cases, and may be used to evaluate other recycling activities. By following the worksheet and correctly answering all questions, users should be able to determine the Subtitle C regulatory status of any recycled material. Examples are provided for each category of recycling and for materials or activities that are subject to the special provisions. The first page of Chapter 2 describes the organization of that chapter.

The final chapter provides an Index designed to help users locate examples similar to those they wish to evaluate. The index cross-references examples according to the following terms:

- Common descriptors of recycling activities (e.g., distillation, secondary smelting, etc.);
- The regulatory definition of the recycled material (e.g., characteristic sludge, listed by-product, etc.);
- Common descriptors of recyclable materials (e.g., solvents, plating baths, etc.); and
- The industry practicing this type of recycling activity.

Before attempting to evaluate a specific recycling practice, the user should read the remainder of the Introduction. This chapter gives an overview of the terms and categories relevant to determining whether a recycled material is regulated under Subtitle C of RCRA and provides a detailed discussion of the regulated practices and regulatory requirements. The user then should consult the Index to locate cases similar to the one he or she wishes to classify, and review these examples to determine how the definition applies to his or her particular case.

Once the user has reviewed the relevant examples and has reached a conclusion about the regulatory status of the material in question, we recommend that he or she re-read the relevant parts of the final section of this Introduction. The detailed

discussions of each recycling practice in that section will serve as a final check on the conclusions developed from reviewing specific examples.

If no appropriate examples are located, the user should attempt to classify the practice by using the worksheet and consulting the detailed regulatory definitions provided in the final section of this Introduction. Additional assistance in using the manual is available through EPA's RCRA Hotline at (800) 424-9346 or (202) 382-3000.

AN OVERVIEW OF THE DEFINITION OF SOLID WASTE

Materials That Are Solid Wastes When Recycled

Under Subtitle C of RCRA, EPA has the authority to regulate the management of hazardous wastes. Hazardous wastes are defined in the statute as a subset of "solid wastes" (40 CFR 261.3(a)). EPA thus must determine whether a hazardous secondary material is a solid waste before it can assert Subtitle C jurisdiction over the management of that waste.2/

In the case of recycled materials, one must know both what the material is and how it is being recycled in order to determine whether it is a Subtitle C waste. The definition of solid waste (codified in 40 CFR 261) identifies four types of recycling activities that may involve solid waste management:

- Use constituting disposal - This activity involves any direct placement of wastes or waste-derived products (products that contain a waste as an ingredient) onto the land (40 CFR 261.2(c)(1)).3/

2/ Throughout this manual, we refer for convenience to "hazardous secondary materials." This term refers to any hazardous material that can be a solid and hazardous waste when recycled. As described below, hazardous secondary materials include spent materials, sludges, by-products, commercial chemical products, or scrap metals (50 FR 616).

3/ Use of a waste to produce a product that is placed on the land is also considered use constituting disposal.

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- Burning wastes or waste-derived fuels for energy recovery, or using wastes to produce a fuel (40 CFR 261.2(c)(2)).

- Reclamation - This activity involves the regeneration of wastes or the recovery of material from wastes (40 CFR 261.2(c)(3)).

- Speculative accumulation - This activity includes (1) accumulating wastes that one legitimately expects to recycle, but for which no recycling market (or no feasible recycling method) currently exists, and (2) accumulating wastes for recycling without recycling at least 75 percent of the accumulated material within a one-year period (40 CFR 261.2(c)(4) and 261.1(c)(8)).

The definition also distinguishes among five types of hazardous materials:

- Spent materials: materials that have been used and as a result of such use become contaminated by physical or chemical impurities, such that they can no longer serve the purpose for which they were produced without being regenerated (40 CFR 261.1(c)(1)).

- Sludges: residues from treating air or wastewater, or other residues from pollution control operations (40 CFR 260.10).

- By-products: residual materials resulting from industrial, commercial, mining, and agricultural operations that are not primary products, are not produced separately, are not fit for a desired end use without substantial further processing, and are not spent materials, sludges, commercial chemical products, or scrap metals (40 CFR 261.1(c)(3)).

- Commercial chemical products: commercial chemical products and intermediates, off-specification variants, spill residues, and container residues that are listed in 40 CFR 261.33 or exhibit one or more of the hazardous waste characteristics (50 FR 14219).

- Scrap metal: bits and pieces of metal parts that are generated by metal processing operations or result from consumer use (40 CFR 261.1(c)(6)).

Exhibit 2 lists examples of wastes in each of these categories.

Finally, it is necessary to know on what basis a material would be defined as hazardous to determine its status, if recycled. Some materials are specifically listed as hazardous under 40 CFR 261.31-33 (listed wastes). Others exhibit one of the characteristics of hazardous wastes defined in 40 CFR 261.20-24 (ignitability, corrosivity, reactivity, and extraction procedure (EP) toxicity -- characteristic or non-listed wastes). Materials not defined as hazardous are not subject to Subtitle C regulation. Thus, we describe solid wastes as potentially subject to Subtitle C regulation. Solid wastes must also be hazardous -- either as a listed or a characteristic waste -- before being subject to such regulation (40 CFR 261.1(b)(1)).4/

Except for certain materials (discussed below), one must consider both the material and the recycling practice to determine whether a recycled material is defined as a solid (and potentially a hazardous) waste (40 CFR 261.2 (c)). Exhibit 3 shows the combinations of secondary materials and recycling activities for which the secondary material is defined as a solid waste. If such a secondary material is also defined as hazardous (i.e., it is specifically listed in 40 CFR 261.31-33 or exhibits a characteristic of hazardous wastes defined in 40 CFR 261.20-24), it is a hazardous waste and is subject to Subtitle C regulation.

As Exhibit 3 indicates, all scrap metals and all listed and characteristic spent materials, sludges, and by-products are solid wastes when used in a manner constituting disposal, burned for energy recovery, used to produce a fuel, or speculatively accumulated. In addition, all listed and characteristic commercial chemical products are solid wastes when used in a manner constituting disposal, burned as a fuel, or used to produce a fuel, unless this is their ordinary manner of use. (Commercial chemical products are not solid wastes when speculatively

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4/ Certain solid wastes, listed under 40 CFR 261.4(b), are specifically excluded from the definition of hazardous waste.

accumulated.) Finally, the definition provides that only spent materials (both listed and characteristic), listed sludges, and listed by-products are solid wastes when reclaimed. The regulation excludes characteristic sludges and by-products and both listed and characteristic commercial chemical products that are reclaimed from the definition of solid waste, to avoid possible over-regulation of certain recycled materials that are more product-like than waste-like.

Materials That Are Not Spent Materials

Distinguishing spent materials from products that are not yet "spent" may present some difficulty. As noted above, a spent material is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing. EPA interprets "the purpose for which a material was produced" to include all uses of the product that are similar to the original use of the particular batch of material in question. For example, EPA cites the case of materials used as solvents to clean printed circuit boards (50 FR 624). If the solvents become too contaminated for this use but are still pure enough for similar applications (e.g., use as metal degreasers), they are not spent materials. Use of slightly contaminated solvents in this way is simply continued use of the original material rather than recycling of a spent material. However, the solvents would be spent materials if they had to be reclaimed before reuse or if the manner in which they were used was not similar to their original application. Examples of the latter are burning solvents as fuel, or using materials originally used as solvents as feedstocks in chemical manufacturing. (It should be noted that in the last example the solvent still may not be a solid waste, but this conclusion would be based on its use as a feedstock. See next section for details.) As another example, used plating baths reused directly in other plating processes would not be spent materials. If used for a purpose other than plating, however, the used plating baths would be a spent material.

Leftover unreacted raw materials from a process also are not spent materials, since they have never been used (50 FR 624). Similarly, leftover fuel is not classified as a spent material, since fuel, by definition, is spent only when it is destroyed to produce energy. In addition, off-specification fuels that are burned for energy recovery are not spent materials, since the

contamination is not sufficient to prevent its use for the intended purpose (as a fuel) (50 FR 630). Off-specification fuels used in other ways may be solid wastes, however. For example, use of the off-specification fuel in a manner constituting disposal would be solid waste management.

Materials That Are Not
Solid Wastes When Recycled

In addition to identifying materials that are solid wastes when recycled, the regulation specifies which materials are not wastes when recycled (40 CFR 261.2 (e)). Specifically, the definition excludes three activities (except as noted below) that ordinarily are not considered to involve waste management because (1) they resemble ordinary production operations, or (2) they resemble ordinary use of commercial products. These activities are:

- Use or reuse of secondary materials as ingredients in industrial processes, provided the materials are not being reclaimed - This activity involves the direct use of a secondary material as an ingredient without prior reclamation. An example is the use of distillation bottoms from the production of carbon tetrachloride as a feedstock in producing tetrachloroethylene (50 FR 619).

- Use or reuse of secondary materials as effective substitutes for commercial products - This activity involves direct use of secondary materials in non-manufacturing applications or functions. (This situation differs from the one just described in that the material substitutes for a finished product rather than a raw material ingredient in a production process.) An example is the use of certain sludges as a substitute for commercial wastewater conditioners (50 FR 619-620).

- Return of secondary materials to the original primary production process in which they are generated without first reclaiming them - This activity is termed "closed-loop recycling." Materials qualify for the closed-loop exclusion if: (1) the secondary materials are returned for reuse in the process that generated them without

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first being reclaimed; (2) the process to which these unreclaimed materials are returned is a primary production process (i.e., is based primarily on virgin raw materials as feedstocks); and (3) the materials are returned to the process as an ingredient or feedstock. An example of closed-loop recycling is resmelting of emission control dusts in the primary metal smelting furnace that originally generated them (50 FR 620).

It is important to note that these exclusions do not apply to hazardous secondary materials used as fuels or as ingredients in waste-derived fuels; to hazardous secondary materials placed directly on the land or used in waste-derived products that will be placed on the land; or to hazardous secondary materials that are speculatively accumulated. In these situations, the material is a solid and hazardous waste, and subject to RCRA Subtitle C jurisdiction. (See 40 CFR 261.2(e)(2).) In addition, residues derived from listed wastes remain subject to RCRA Subtitle C jurisdiction. Residues derived from characteristic hazardous wastes are subject to Subtitle C regulations only if the residues themselves exhibit any of the hazardous waste characteristics.

Variances

The regulation defines three circumstances in which recycled materials that ordinarily would be considered solid wastes may be eligible for case-by-case variances (40 CFR 260.30):

- Materials accumulated without sufficient amounts being recycled - Cases in which less than 75 percent of recyclable material is recycled (or shipped for recycling) within a year may be eligible for a variance if the applicant demonstrates that sufficient amounts of the material will be recycled or transferred for recycling in the following year. Without a variance, any hazardous secondary material left unrecycled would be defined as a solid waste, and subject to all applicable hazardous waste requirements. With a variance, the remaining accumulated material would be excluded from the definition of solid waste for the following year (40 CFR 260.31(a)).

- Materials that are reclaimed and then reused as a feedstock within the original primary production process in which they were generated - These materials may receive a variance if the reclamation operation is deemed to be an essential part of the production process and the materials are handled in a manner commensurate with the management of raw materials or products. Without a variance, this activity would be defined as reclamation, and materials that are defined as solid wastes when reclaimed would be subject to the appropriate Subtitle C requirements. With a variance, the materials would be excluded from the definition of solid waste. For example, an ignitable solvent that is regenerated and returned to a chemical reactor as an ingredient ordinarily would be considered a solid waste, since reclamation of the spent material is required before reuse. Under the case-by-case variance provision, however, the material could be excluded from classification as a solid waste (40 CFR 260.31(b)). 5/

- Materials that are reclaimed but must be reclaimed further before material recovery is completed - These materials may receive a variance if, after initial reclamation, the resulting material is commodity-like (even though it is not yet a commercial product, and must be reclaimed further). Thus, materials that have undergone processing that substantially completes the recycling process might be excluded from definition as solid wastes. An example is ore concentrate reclaimed from electroplating wastes that must be

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5/ It should be noted that on December 16, 1985, EPA requested comment on a generic exclusion from the definition of solid waste when: (1) the materials are returned, after being reclaimed, to the original process in which they were generated; (2) only tank storage is involved, and the entire process, through completion of reclamation, is "closed" (i.e., entirely connected with pipes or other comparable enclosed means of conveyance); (3) the materials are never accumulated in such tanks for over 12 months without being reclaimed; and (4) reclamation does not involve controlled flame combustion (50 FR 61265).

processed in a smelter before use. The ore concentrate is much like a raw material in this case and may be excluded from the definition of solid waste if a variance is granted. A variance will not be granted if the initial recycling step is minimal (40 CFR 260.31(c)).

Standards and criteria for EPA Regional Administrators to follow in granting or denying variances from classification as a solid waste are detailed in 40 CFR 260.31. In addition, 40 CFR 260.33 delineates the procedures for evaluating applications for variances, including public notification and comment periods. The Regional Administrator must follow these procedures in responding to requests that meet one of the three eligibility criteria described above. (If a variance application does not meet the eligibility criteria, the Regional Administrator may deny the request without following the formal evaluation procedures.)

Inherently Waste-Like Materials

Certain "inherently waste-like" materials are defined as solid and hazardous wastes regardless of how they are recycled (40 CFR 261.2 (d)). To identify an inherently waste-like materials, EPA must go through formal rulemaking to demonstrate how the material in question meets the criteria specified in 40 CFR 261.2(d). Wastes currently included in this category are the chlorinated dioxin- and dibenzofuran-containing wastes listed in Exhibit 4 as F020, F022, F023, F026, and F028. Waste F021 is not designated as a solid waste if it is used as an ingredient to make a product at the site of generation, but is a solid waste if recycled or disposed of in any other way.

Additional Exclusions

Finally, certain materials are explicitly excluded from the definition of solid waste (40 CFR 261.4 (a)). These materials are listed in Exhibit 5. The list includes two cases in which materials are excluded from the definition of solid waste only if they are recycled in specific ways:

- Pulping liquors that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process (50 FR 14218) unless accumulated speculatively; and

- Spent sulfuric acid used to produce virgin sulfuric acid, unless accumulated speculatively.

Applicable Regulations

The requirements that apply to recycled hazardous wastes are defined by regulations issued by EPA under Subtitle C of RCRA. Additional requirements may be imposed by individual states. This section describes the Subtitle C regulations that impose minimum requirements for such wastes.

In most cases, materials that are solid and hazardous wastes when recycled are subject to the general hazardous waste management requirements (i.e., the requirements applicable to hazardous wastes being stored or disposed rather than recycled) prior to recycling. Thus, generators of wastes destined for recycling are subject to waste characterization, notification, manifest, pre-transport, and (where applicable), short-term storage requirements for these wastes up to the point of recycling (40 CFR Part 262).6/ Transporters of wastes destined for recycling are subject to the requirements of 40 CFR Part 263. Parties storing wastes prior to recycling are subject to requirements under 40 CFR 262.34 or 40 CFR 264 and 265 Subparts A through L. Recyclers who are not the generators of the waste are subject to the full Part 264 and 265 storage requirements, regardless of the length of the storage period.

Certain recycled materials -- for example, spent lead-acid batteries that are reclaimed and materials from which precious metals are recovered -- are subject to a lesser set of controls (40 CFR 266). These materials and the reduced requirements that apply to them are discussed in the detailed description of regulations in the next section.

6/ Short-term storage regulations apply to generators of at least 1,000 kilograms of hazardous waste per month who store wastes in tanks or containers for no more than 90 days prior to recycling them on-site or sending them off-site for recycling. Short-term storage regulations also apply to generators of between 100 and 1,000 kilograms of hazardous waste per month who store wastes in tanks or containers for no more than 180 to 270 days before recycling them on-site or sending them off-site for recycling. (40 CFR 262.)

Wastes generated by generators of less than 100 kilograms per month are conditionally exempt from most Subtitle C requirements (40 CFR 261.5).7/ (Acutely-hazardous wastes are exempt only if generated in quantities less than one kilogram per month.) Moreover, secondary materials that are excluded from the definition of solid waste or are exempt from regulation when they are to be recycled are excluded from the calculation of the 100 kilogram per month limit (40 CFR 261.5(c)). In addition, generators who recycle solid wastes but are not subject to 40 CFR Parts 262.34, 263, 264, or 265 because they neither store, transport, treat nor dispose of hazardous wastes (e.g., generators who regenerate solvents on-site in continuous distillation columns and recycle the reclaimed materials directly back to their original use) are excused from all other Subtitle C requirements for these wastes and need not include them in calculating the 100 kilogram per month exemption (50 FR 652). Therefore, whether other wastes are subject to Subtitle C regulation may depend in some cases on whether a waste destined for recycling is defined as a solid waste.

The useful products produced by recycling generally are not defined as wastes and therefore are not subject to Subtitle C regulation, with some exceptions. Hazardous materials produced by recycling that require further processing before use are still wastes rather than products, and remain subject to applicable regulations (50 FR 634).8/ (This exception does not apply to products of the reclamation of characteristic by-products or characteristic sludges, since characteristic by-products and sludges that are reclaimed are not defined as solid wastes.) In

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7/ This exemption was lowered from 1,000 kilograms per month to 100 kilograms per month under a rule promulgated in March 1986. This rule also establishes requirements for hazardous wastes from generators of between 100 and 1,000 kilograms per month; these requirements differ somewhat from requirements for wastes from larger quantity generators.

8/ For example, lead and oxides obtained by cracking a spent lead-acid battery (a characteristic spent material) must be reclaimed by a secondary lead smelter or otherwise processed to recover the lead. Because battery-cracking does not complete the recycling process, and the material exhibits a hazardous characteristic (EP-toxicity), the lead and oxides remain a solid and hazardous waste and are subject to Subtitle C regulations.

addition, reclaimed materials that are not ordinarily considered to be commercial products, such as wastewaters or stabilized wastes, are defined as solid wastes; if hazardous, these wastes are subject to Subtitle C requirements (50 FR 634). Recycled materials destined for use as a fuel or for placement on the land for beneficial use are also subject to Subtitle C requirements if they contain a listed waste as an ingredient or exhibit a hazardous waste characteristic (see page 1-18 for possible exceptions). Finally, any residues produced by recycling are themselves hazardous wastes if (1) the material being recycled is a listed hazardous waste or (2) if the waste is not a listed waste, the residue exhibits one of the characteristics of a hazardous waste; these residues are subject to any applicable Subtitle C requirements (40 CFR 261.3). (It is important to note that waste-derived products that are placed on the land have been temporarily exempted from regulation under Subtitle C (40 CFR 266.20(b)). Moreover, as of March 1986, the Agency has only developed administrative and storage requirements for fuels derived from hazardous wastes; the technical standards for burning these fuels have not yet been proposed.)

Most recycling activities themselves currently are not subject to Subtitle C requirements. However, use constituting disposal (placement of a hazardous waste or a material derived from or otherwise containing a hazardous waste on the land) is subject to Subtitle C requirements under 40 CFR Parts 264 and 265, Subparts M and N (see page 1-18 for possible exceptions). In addition, burning of hazardous wastes or fuels derived from or otherwise containing a hazardous waste in boilers or industrial furnaces eventually will be subject to requirements currently being developed by EPA under 40 CFR Parts 264, 265, and 266, and currently is banned in all devices but industrial boilers and furances (see 40 CFR 266.31, as amended by the Federal Register of November 29, 1985).

Exemptions

Some materials, listed in Exhibit 6, are defined as solid wastes when recycled but currently are exempt from all RCRA Subtitle C requirements (40 CFR 261.6(a)(3)). These include scrap metals, reclaimed industrial alcohols, used oils recycled other than by burning, certain used batteries, certain waste-

derived fuels produced from petroleum refining hazardous wastes, and certain coke and coal tar wastes from the iron and steel industry.9/

Burden of Proof

Persons accumulating hazardous secondary materials not otherwise defined as wastes have the burden of proving that they are not accumulating materials speculatively; that is, that they are recycling sufficient amounts of secondary materials (50 FR 636). Absent such proof, materials stored prior to recycling will be presumed to be hazardous wastes. At a minimum, EPA expects those who accumulate potentially recyclable materials to maintain records for each class of material recycled in the same way. These records should indicate (1) the amount of secondary material that is on-hand at the beginning of the calendar year, (2) the amount of material added during the year, and (3) the amount remaining at the end of the year. Records customarily maintained, such as records of throughput for an industrial process, should be satisfactory for this purpose. In addition, names and addresses of recyclers receiving secondary materials should be

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9/ EPA has proposed to list used oil as a hazardous waste (50 FR 49258) and to establish special management standards for used oil that is recycled (50 FR 49212). Prior to promulgation of these rules, only characteristic used oil to be burned as a fuel -- or fuel produced from used oil that exhibits a characteristic -- is subject to Subtitle C requirements. Used oil fuel that does not meet a specification for arsenic (5 ppm), cadmium (2 ppm), chromium (10 ppm), lead (100 ppm), flash point (100 degrees F), or total halogens (4,000 ppm) is subject to special standards under 40 CFR Part 266 Subpart E when burned for energy recovery. Furthermore, used oil containing more than 1,000 ppm total halogens is presumed to be mixed with listed hazardous waste, and is subject to all applicable Subtitle C requirements for hazardous waste fuel, unless the presumption of mixing can be successfully rebutted. If burned for energy recovery, used oil that meets the specification for used oil fuels is subject to limited requirements under 40 CFR 266. Used oil that exhibits a characteristic currently is exempt from Subtitle C requirements if recycled other than by burning for energy recovery.

maintained, as well as any other information that substantiates compliance with the minimum turnover rate (e.g., contracts or correspondence with a recycler).

In addition, persons accumulating hazardous secondary materials that they claim are not solid wastes because they are recycled in a particular manner have the burden of proving that they indeed recycle materials in the way claimed (50 FR 642). Although the regulations contain no formal recordkeeping requirement, persons who recycle potentially hazardous secondary materials must keep records or other means of substantiating a claim that they are not managing a solid waste. In addition, owners or operators of facilities claiming that they are engaged in recycling must show that they have the necessary equipment to do so, and that such equipment is operational. Absence of documentation not only would make it difficult or impossible to carry the burden of proof, but would itself be seen by EPA as evidence that the claimed recycling is a sham.

Finally, EPA considers certain characteristics of the recycling practice in question to determine when the practice constitutes legitimate recycling (50 FR 638). In general, practices will be considered disposal rather than use/reuse where the secondary material is ineffective (or only marginally effective) for the claimed use, where secondary materials are used in amounts in excess of the amount necessary for operating a process, where the secondary material is considerably less effective than the material it replaces, or where materials are not handled in a manner consistent with use as a substitute for raw materials or commercial products (e.g., when not stored or handled so as to prevent significant economic losses). For example:

- For wastes incorporated into products to be placed on the ground (which may be eligible for an exemption from the requirements), the waste must contribute to the effectiveness of the product. Wastes used in a fertilizer must contain nutrients or micronutrients, and wastes used in cement must have pozzolanic properties.

- To be eligible for reduced requirements for precious metals reclamation, wastes must contain precious metals in economically-recoverable quantities.

- Burning of wastes in industrial furnaces would be deemed to be disposal rather than materials recovery if the materials recovery is economically insignificant or where the quantities of waste burned would provide materials in excess of what can feasibly be recovered and used.

DETAILED DESCRIPTION OF REGULATED PRACTICES AND REGULATORY REQUIREMENTS

This section provides detailed descriptions of recycling activities. It identifies wastes that are defined as solid (and potentially hazardous) wastes when recycled by each method, and lists the Subtitle C requirements that apply in each case. The following activities are discussed in separate subsections:

- Use Constituting Disposal
- Burning for Energy Recovery/Use to Produce Fuel
- Reclamation

In addition, the final part of this section discusses speculative accumulation. These descriptions should be consulted to verify the user's conclusions about the regulatory status of a particular material.

Use Constituting Disposal

Use constituting disposal is defined as:

1. Applying materials to the land or placing them on the land in a manner constituting disposal;
2. Applying materials contained in a product to the land or placing them on the land in a manner constituting disposal (40 CFR 261.2(c)(1)).

Examples of such use include use as fill or cover material; use for structural support; use as a fertilizer; use as a soil conditioner or dust suppressor; or use in asphalt or building foundation materials. "Placement on the land" is construed broadly

also to include most types of placement in water (except where some type of chemical reaction occurs, such as use as a water conditioner) (50 FR 628).

As noted above, all hazardous secondary materials are considered solid wastes when applied to the land in these ways, except for listed commercial chemical products whose ordinary use involves application to the land (40 CFR 261.2(c)(1)). Therefore, hazardous waste generator (40 CFR Part 262), transporter (40 CFR Part 263), and storage requirements (40 CFR Parts 264 and 265, Subparts A through L) apply prior to use, and applicable land disposal requirements under 40 CFR Parts 264 and 265, Subparts M and N, apply to the activity itself.

Products that include listed hazardous wastes as ingredients -- i.e., waste-derived products -- are classified as solid and hazardous wastes when placed directly on the land for beneficial use, unless and until the product is formally delisted. Products that include characteristic hazardous wastes as ingredients (also considered waste-derived products) are classified as solid and hazardous wastes only if the product itself exhibits any of the hazardous waste characteristics (see 50 FR 627-628 and 40 CFR 261.3(c) and (d)). However, EPA has temporarily exempted waste-derived products placed on the land from regulation if the waste (a) has undergone a chemical reaction so as to become inseparable by physical means and (b) the resulting combined material is marketed to the general public as a commercial product. In addition, waste-derived fertilizers that are marketed to the general public are also temporarily exempted from regulation (40 CFR 266.20). Products derived from hazardous wastes in which the production process does not significantly alter the waste's chemical or biological character (e.g., where production involves simple mixing of wastes and other ingredients) are not eligible for the temporary exemption. Waste-derived products that are not marketed to the general public as a commercial product also are not exempt from regulation, even if their composition and potential use is identical to that of products on the commercial market. Although the specified waste-derived products are exempt from regulation, all applicable Subtitle C requirements still apply to the wastes before they are incorporated into the waste-derived product (50 FR 629).

Burning for Energy Recovery/
Use to Produce Fuel

Under the Definition of Solid Waste, wastes may be deemed to be burned for energy recovery if they are burned (directly or as part of a waste-derived fuel) in boilers or industrial furnaces (40 CFR 261.2(c)(2)). These combustion devices are defined in 40 CFR 260.10 as follows:

- Boilers - enclosed devices using controlled flame combustion with specified design and operating characteristics related to the recovery of energy; and

- Industrial Furnaces - one of a specific list of devices that are integral components of manufacturing processes and that use controlled flame devices to accomplish recovery of materials or energy.

The list of devices defined as industrial furnaces is shown in Exhibit 7. Additional devices may be added to the list of industrial furnaces in the future.

Burning of wastes in industrial furnaces may also be undertaken solely to reclaim materials (see discussion of reclamation in the next section) or to dispose of materials. (EPA interprets any legitimate burning of wastes in boilers to be intended at least in part for energy recovery, since energy recovery is the primary purpose of boiler operations.) The rules applicable to burning for energy recovery apply for recycling in industrial furnaces, unless the burning is solely for recovery of materials (50 FR 630-631). Thus, characteristic sludges and by-products that generally are not subject to Subtitle C requirements if reclaimed will be subject to requirements when burned in boilers or industrial furnaces when energy recovery is also accomplished. Burning in devices other than boilers and industrial furnaces is regulated as incineration or thermal treatment under Subtitle C, and wastes destined for such burning are subject to full requirements under Subtitle C, even if recycling is intended.

As described in the previous section, all hazardous secondary materials are solid and hazardous wastes when burned directly as a fuel, or when processed or blended to produce a fuel. The only exceptions are commercial chemical products that

are originally intended for use as fuels, including off-specification fuels (e.g., natural gas pipeline condensate generated in the pipeline transmission of natural gas) that are burned for energy recovery (50 FR 630 and 40 CFR 261.2(c)(2)). In addition, used oils that are hazardous only because they exhibit a characteristic of hazardous wastes are subject to special standards in Part 266, Subpart E when used as fuels, and may be subject to additional regulation in the future.

EPA currently is developing, in two phases, regulations that will govern burning of wastes as fuels. On 29 November 1985, EPA promulgated a first set of rules that extend generator (Part 262), transporter (Part 263), and interim status storage requirements (Part 265) to fuels derived from solid and hazardous wastes not previously subject to Subtitle C requirements. The rule also establishes a rebuttable presumption that used oil containing more than 1,000 ppm total halogens is mixed with listed hazardous wastes, and therefore is subject to the same requirements as other hazardous wastes when burned as fuel. In addition, the rule prohibits the burning of hazardous waste fuel and contaminated used oil (used oil that does not meet specifications for arsenic, cadmium, chromium, lead, flash point and/or halogens) in non-industrial boilers. Finally, the rule imposes requirements for generators, marketers, and burners of used oil burned as fuel, including notification, use of a manifest or invoice, fuel analysis, and storage requirements.

In the second rule-making phase, EPA is developing permit standards for burning of used oil fuels, hazardous waste, and waste-derived fuels in boilers and industrial furnaces. (These rules will affect all burning of hazardous wastes in such devices, regardless of the purpose of burning.) The permit standards are scheduled for proposal in 1986, and will specify additional storage and administrative requirements and technical controls on burning.

Reclamation

Reclamation is defined as:

1. The regeneration of waste materials; or

2. The recovery of material with value from wastes (40 CFR 261.1(b)(4)).

Reclamation includes such activities as dewatering, ion exchange, distillation, and smelting. Simple collection (such as collection of solvent vapors) or the agglomeration of materials (e.g., in a sintering furnace) is not reclamation. Use of materials as feedstocks or ingredients (e.g., use of a material as a reactant in the production of a new product) also is not reclamation (50 FR 633).

Spent materials, scrap metals, listed sludges, and listed by-products are solid wastes when reclaimed (40 CFR 261.2(c)(3)).10/ Prior to reclamation, these materials are subject to hazardous waste generator (40 CFR 262), transporter (40 CFR 263), and storage requirements (40 CFR 264 and 265, Subparts A through L). Residues derived from reclaiming listed spent materials, by-products and sludges are also listed hazardous wastes and are subject to Subtitle C regulation, unless and until they are delisted. Residues from the reclamation of characteristic spent materials are regulated as hazardous wastes if they also exhibit one of the characteristics of a hazardous waste. Reclamation processes themselves are not regulated (40 CFR 261.3(c) and (d)).

Certain types of materials recovery in industrial furnaces are not within the jurisdiction of RCRA, and materials that are defined as solid and hazardous wastes prior to such reclamation (and subject to storage and other applicable standards) may not be defined as solid wastes during the reclamation process. These are situations where the secondary material being reclaimed is indigenous to the process in which the industrial furnace is being used, for example, because the secondary material contains the same types and concentrations of constituents as the raw materials normally burned in the industrial furnace. Since the burning process itself is not currently subject to Subtitle C standards, the only practical implication of the difference in

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10/ Although scrap metal that is reclaimed is defined as a solid waste, it is is temporarily exempt from all RCRA hazardous waste requirements (40 CFR 261.6(a)(3)). Characteristic sludges and by-products may be subject to Subtitle C requirements if reclaimed in boilers or industrial furnaces, if some energy recovery occurs as well (see 50 FR 630-631). As described above, these wastes are subject to requirements when burned as fuels (40 CFR 261.2(c)(2)).

status of these wastes prior to and during burning is the status of residuals from burning. A residue from burning an indigenous material that is burned solely for materials recovery in an industrial furnace would not be subject to Subtitle C requirements, unless the residue itself exhibits one or more of the characteristics of hazardous waste. For example, a listed process residue from a smelting furnace that is resmelted in the same furnace would not be a solid waste at the point of resmelting, although it would be subject to Subtitle C requirements if stored prior to being resmelted. (See 50 FR 49167, November 29, 1985.)

The products of reclamation are generally not wastes and are not subject to RCRA unless:

1. They are burned as fuel or placed on the land;

2. They are not ordinarily considered to be commercial products (e.g., reclaimed wastewater); or

3. Reclamation processing is minimal or does not complete the recovery process (50 FR 634).11/

As described above, listed sludges, listed by-products, and listed or characteristic spent materials that are reclaimed are solid wastes and subject to Subtitle C generator requirements; if stored or transported, these materials are also subject to Subtitle C storage and transport requirements. Some wastes, however, are subject to reduced requirements when reclaimed:

11/ Products of reclamation that are burned as fuel or placed on the land are not solid wastes if they are commercial chemical products ordinarily produced for these uses (50 FR 634). In addition, the requirement that the recovery process be complete before a product of reclamation is no longer considered a waste does not apply to the reclamation of characteristic by-products or sludges; the intermediate products of reclamation of these materials are not solid wastes since the sludges and by-products themselves are not solid wastes.

- Materials from which precious metals are recovered are subject to the limited provisions under 40 CFR 266 Subpart F (i.e., notification, manifest, and recordkeeping requirements only). To qualify, the reclamation process must recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or some combination of these metals from the waste in question.

- Generators, transporters, and collectors of spent lead-acid batteries who do not also recover the lead from the batteries are not subject to the hazardous waste regulations. Reclaimers of lead from these batteries must notify and, if they store the batteries prior to reclamation, comply with the storage facility requirements of 40 CFR 264 and 265 Subparts A through L, with the exception of waste characterization (264.14 and 265.23) and manifest-related requirements (264.71-72, 265.71-72). The limited provisions applicable to persons who reclaim spent lead-acid batteries are summarized under 40 CFR 266 Subpart G.

Spent lead acid batteries that are to be reclaimed are excluded from the calculation of the 100 kg/month exemption level (40 CFR 261.5) because they are not subject to regulation in the hands of the generator (50 FR 14218). Precious metal wastes, however, must be included in the calculation of the exemption (50 FR 652 and 50 FR 14218).

Speculative Accumulation

Any hazardous secondary material not otherwise defined as a solid waste when recycled is considered a waste if it is accumulated before recycling, unless the person accumulating the material can show that (1) the material is potentially recyclable and there is a feasible means of recycling the material, and (2) at least 75 percent of the accumulated material is recycled in

one calendar year (40 CFR 261.2(c)(4)).12/ The only exceptions to this rule are hazardous commercial chemical products (listed or characteristic) which are not considered wastes when stored prior to recycling (40 CFR 261.2(c)(4)). Generator (40 CFR 262), transporter (40 CFR 263), and storage requirements (40 CFR 264 and 265, Subparts A through L) apply to speculatively accumulated wastes.

12/ The 75 percent turnover rate may be calculated on the basis of volume or weight, and applies to waste accumulated during a calendar year beginning January 1. The 75 percent turnover requirement applies to all materials of the same class (materials of the same type generated from the same process) destined to be recycled in the same way (50 FR 635 and 40 CFR 261.1(c)(8)).

Exhibit 1

Description of Activity:

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a)(see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the process exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2.

<u>Discussion</u>:

Exhibit 2

EXAMPLES OF WASTES BY TYPE

Spent Materials:	spent solvents spent activated carbon * spent catalysts spent acids spent pickle liquor spent foundry sands spent lead-acid batteries spent potliners wastewater
Sludges:	bag house dusts wastewater treatment sludges flue dusts
By-products:	distillation column bottoms mining slags drosses
Scrap Metal:	bars turnings rods sheet wire radiators scrap automobiles railroad box cars
Commercial Chemicals:	Commercial chemical products or manufacturing intermediates listed in 40 CFR 261.33(e) or (f); Off-specification variants of the above substances; Containers or inner liners from containers used to hold the above substances (unless they have been cleansed in the appropriate manner); Any residue or contaminated debris from the cleanup of a spill of any of the above substances.

Exhibit 2
(continued)

EXAMPLES OF WASTES BY TYPE

Listed Wastes by Category: **

Spent Materials	Sludges	By-Products	
F001	F006	F008	K034
F002	F012	F010	K036
F003	F019	F024	K039
F004	K001	K008	K042
F005	K002	K009	K043
F007	K003	K010	K049
F009	K004	K011	K050
F011	K005	K013	K052
K021	K006	K014	K060
K028	K007	K015	K071
K033	K032	K016	K073
K038	K035	K017	K083
K045	K037	K018	K085
K047	K040	K019	K087
K062	K041	K020	K093
K086	K044	K022	K094
K098	K046	K023	K095
K099	K048	K024	K096
K104	K051	K025	K097
K111	K061	K026	K101
K117	K069	K027	K102
K118	K084	K029	K103
	K100	K030	K105
	K106	K031	K112
			K113
			K114
			K115
			K116
			K136

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* Spent activated carbon is a sludge if it is generated by pollution control activities.

** This exhibit does not include inherently waste-like materials (wastes with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026 and F028). In addition, it does not include listed commercial chemical products (all P- and U- wastes listed under 40 CFR 261.33, plus EPA Waste No. F027), which are a separate physical category. Currently, there are no listed wastes in the scrap metals category.

Exhibit 3

TYPES OF SECONDARY MATERIALS DEFINED AS SOLID AND HAZARDOUS WASTES WHEN RECYCLED

Type of Material	Type of Recycling: Use Constituting Disposal	Burning for Energy Recovery, or Use to Produce A Fuel	Reclamation	Speculative Accumulation
Spent Materials (both listed and nonlisted/ characteristic)	Yes	Yes	Yes	Yes
Sludges (listed)	Yes	Yes	Yes	Yes
Sludges (non-listed/characteristic)	Yes	Yes	No	Yes
By-products (listed)	Yes	Yes	Yes	Yes
By-products (non-listed/characteristic)	Yes	Yes	No	Yes
Commercial Chemical Products (both listed and nonlisted/ characteristic; not ordinarily applied to the land or burned as fuels)	Yes	Yes	No	No
Scrap Metal	Yes	Yes	Yes	Yes

Yes - Defined as a solid waste
No - Not defined as a solid waste

Exhibit 4

INHERENTLY WASTE-LIKE MATERIALS

Inherently waste-like materials are specified in greater detail in 40 CFR 261.2(d).

As of December 1985, they include:

- Wastes from the production or manufacturing use of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives (F020);
- Wastes from the production or manufacturing use of pentachlorophenol, or of intermediates used to produce its derivatives (F021), unless used as an ingredient to make a product at the site of generation;
- Wastes from the manufacturing use of tetra-, penta-, or hexachlorobenzenes under alkaline conditions (F022);
- Wastes from the production of materials on equipment previously used for the production or manufacturing use of tri- and tetrachlorophenols (F023);
- Wastes from the production of materials on equipment previously used for the manufacturing use of tetra-, penta-, or hexachlorobenzene under alkaline conditions (F026);
- Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 (F028).

Exhibit 5

EXCLUDED MATERIALS

The following materials are excluded from the definition of solid waste (40 CFR 261.4(a)):

- Domestic sewage and mixtures of domestic sewage and industrial wastes;
- Industrial NPDES point source wastewater discharges;
- Irrigation return flows;
- Source, special nuclear or by-product material as defined by the Atomic Energy Act;
- Materials subjected to in-situ mining techniques which are not removed from the ground;
- Pulping liquors (i.e., black liquors) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless they are speculatively accumulated;
- Spent sulfuric acid used to produce virgin sulfuric acid, unless it is speculatively accumulated.

Exhibit 6

EXEMPTED MATERIALS

The following materials are defined as solid wastes, but are specifically exempt from RCRA Subtitle C requirements (40 CFR 261.6):

- Industrial ethyl alcohol that is reclaimed;
- Used batteries (or used battery cells) returned to a battery manufacturer for regeneration;
- Used oil that exhibits one or more of the characteristics of hazardous wastes but is recycled in some manner other than being burned for energy recovery;
- Scrap metal;
- Fuels produced from the refining of oil-bearing hazardous wastes along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices;
- Oil reclaimed from hazardous waste resulting from normal petroleum refining, production, and transportation practices, if it is to be refined along with normal process streams at a petroleum refining facility;
- Coke and coal tar from the iron and steel industry that contains hazardous waste from the iron and steel production process;

Exhibit 6
(continued)

EXEMPTED MATERIALS

- Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under 40 CFR 266.40(e) and so long as no other hazardous wastes are used to produce the hazardous waste fuel;

- Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the oil fuel specification under 40 CFR 266.40(e);

- Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under 40 CFR 266.40(e); and

- Petroleum coke produced from petroleum refinery hazardous wastes containing oil at the same facility at which such wastes were generated, unless the resulting coke product exhibits one or more characteristics of hazardous waste.

Exhibit 7

DEVICES REGULATED AS INDUSTRIAL FURNACES
(listed in 40 CFR 260.10)

Cement kilns

Lime kilns

Aggregate kilns

Phosphate kilns

Coke ovens

Blast furnaces

Smelting, melting and refining furnaces*

Titanium dioxide chloride process oxidation reactors

Methane reforming furnaces

Pulping liquor recovery furnaces

Combustion devices used in recovery of sulfur values from spent sulfuric acid

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* This category includes pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters, and foundry furnaces.

This chapter presents examples that illustrate the application of the solid waste definition rule to specific recycling practices. The examples follow the format described in Chapter 1 and are organized by recycling activity and types of hazardous materials. There are five sections on types of recycling activities:

1. Use constituting disposal;

2. Burning wastes or waste-derived fuels for energy recovery, or using wastes to produce a fuel;

3. Reclamation; and

4. Use or reuse of secondary materials as ingredients or feedstocks in production processes, as effective substitutes for commercial products, or in closed-loop recycling processes.

In addition, a fifth section ("Other") provides examples of the following cases:

- Activities that do not constitute solid waste recycling;

- Recycling of materials excluded from the definition of solid waste under 40 CFR 261.4 (b); and

- Recycling of inherently waste-like materials.

Within these sections, the examples appear in the following order:

1. Spent materials (that are contaminated such that they serve their original purpose);

2. Sludges (residues from pollution control or treatment operations);

3. By-products (residual materials that are not in the other categories);

4. Scrap metals (bits and pieces of metal parts);

5. Mixed materials (mixtures of the above materials);

6. Materials that are not secondary materials; and

7. Secondary materials that re not hazardous.

The index contained in Chapter 3 provides additional assistance in locating examples of particular recycling practices.

We emphasize that all statements regarding the regulatory status of secondary materials or recycling practices described in this document are based strictly on the examples illustrated. Slight changes in any given example could alter its regulatory status. Therefore, users of this manual who wish to draw conclusions about the regulatory status of a particular recycling activity should be certain that the examples relied upon are completely analogous to the case in question. Further, the reader should not assume that descriptions of the wastes as listed, characteristic, or non-hazardous in the examples would apply to all similar wastes. These classifications are stated as assumptions in the examples, and each material of interest to the reader should be evaluated to determine whether it falls within the scope of a listing or whether it exhibits one of the characteristics of a hazardous waste.

USE CONSTITUTING DISPOSAL - SPENT MATERIAL 1

Description of Activity:

An acid etching solution (a spent material exhibiting the characteristic of corrosivity) is reclaimed for its zinc content. The zinc (which does not exhibit any hazardous waste characteristics) is then used in a fertilizer that also does not exhibit any hazardous waste characteristics. The recycler uses the fertilizer on his own land but does not market it to the general public.

What is the status of the etching solution?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [X] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent etching solution is subject to requirements under 40 CFR 262. Transporters of the spent etching solution are subject to requirements under 40 CFR 263. Generators recycling the spent etching solution on-site, off-site recyclers and other parties handling the spent etching solution prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent etching solution for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumultion under 40 CFR 262.34. Residues from recycling the spent etching solution must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because material with value -- the zinc -- is recovered from the etching solution, the activity is classified as reclamation. However, the reclamation step is part of a recycling process that ends with the zinc being placed on the ground. Because the ultimate step is use constituting disposal, the etching solution is a solid waste and is subject to RCRA Subtitle C regulation. (Note: Because it is a hazardous spent material that is reclaimed, the etching solution would be a solid waste even if the ultimate use of the zinc was not placement on the land.)

See Also:

Other - Non-Secondary Material 7
Other - Non-Hazardous Secondary Material 3
Other - Non-Hazardous Secondary Material 4
Reclamation - Spent Material 13

USE CONSTITUTING DISPOSAL - SPENT MATERIAL 2

Description of Activity:

Sulfuric acid from metal finishing operations (a spent material exhibiting the characteristic of corrosivity) is used as an ingredient in fertilizers that are marketed to the general public. The fertilizers themselves do not exhibit any hazardous waste characteristics.

What is the status of the sulfuric acid?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [X] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the sulfuric acid is subject to requirements under 40 CFR 262. Transporters of the sulfuric acid are subject to requirements under 40 CFR 263. Generators recycling acid on-site, off-site recyclers and other parties handling the acid prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sulfuric acid for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because the sulfuric acid is incorporated into a product that is applied to the ground, this activity is classified as use constituting disposal. Hence the acids are solid wastes, and are subject to RCRA Subtitle C regulation.

See Also: Use Constituting Disposal - Non-Hazardous Secondary Material 1

USE CONSTITUTING DISPOSAL - SLUDGE 1

Description of Activity:

Toxic metal-containing sludges from the chemical industry (sludges exhibiting the characteristic of EP-toxicity) go through a reclamation process that results in a soil-like solid that can be used for landfill cover material, levees, berms, or fertilizer. This product does not exhibit hazardous waste characteristics.

What is the status of the sludges?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [X] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the sludges is subject to requirements under 40 CFR 262. Transporters of the sludges are subject to requirements under 40 CFR 263. Generators recycling the sludges on-site, off-site recyclers and other parties handling the sludges prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sludges for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling the sludges must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

Although the material is reclaimed, the ultimate destination of the sludges is to be placed on the ground for beneficial use. Hence the activity is use constituting disposal, even though the product of reclamation does not exhibit hazardous waste characteristics. Materials that are used in a manner constituting disposal are solid wastes, and are subject to RCRA Subtitle C regulation.

See Also: Other - Non-Hazardous Secondary Material 2

USE CONSTITUTING DISPOSAL - SLUDGE 2

Description of Activity:

Flue dusts from metal refining operations (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their metals content. The metals, which also exhibit EP-toxicity, are used as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is marketed to the general public.

What is the status of the flue dusts?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [X] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are lsited under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the flue dusts is subject to requirements under 40 CFR 262. Transporters of the flue dusts are subject to requirements under 40 CFR 263. Generators recycling the flue dusts on-site, off-site recyclers and other parties handling the flue dusts prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the flue dusts for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process used to reclaim the metals from the flue dusts is not regulated. Residues from recycling the flue dusts must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

When reclaimed, a characteristic sludge ordinarily is not defined as a solid waste. However, the reclamation step is part of a recycling process that ends with the material being placed on the ground. Because the ultimate step is use constituting disposal, the material is a solid waste and is subject to RCRA Subtitle C regulation.

See Also: Use Constituting Disposal - Sludge 3
Use Constituting Disposal - Sludge 4
Use Constituting Disposal - Sludge 5

USE CONSTITUTING DISPOSAL - SLUDGE 3

Description of Activity:

Flue dusts from metal refining operations (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their metals content. The metals, which also exhibit EP-toxicity, are used as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is marketed to the general public.

What is the status of the recovered metals?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If yes, go on to question (2).
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If yes, go on to question (3).
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If yes, go on to question (6).
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no

If yes, go on to question (6a).
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If yes, go on to question (7).
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If yes, go on to question (7).
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes [ ] no

If yes, go on to question (7a).
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [ ] no

If yes, go on to question (8a).
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are laited under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the metals (the person who reclaims the flue dust to recover the metals) is subject to requirements under 40 CFR 262. Transporters of the metals are subject to requirements under 40 CFR 263. Persons who manufacture fertilizer on-site, off-site fertilizer manufacturers and other parties handling the metals prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the metals for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process of incorporating the metals into the fertilizer is not itself regulated. Any residues from recycling must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

The metals are a product of the reclamation of a characteristic sludge. Such products are not solid wastes themselves unless they exhibit a hazardous waste characteristic and (a) are placed on the ground in a manner constituting disposal or (b) are burned as a fuel. In this case, the recycling process ends with the material being placed on the ground. Because the ultimate step is use constituting disposal, and the metals exhibit a hazardous waste characteristic, the metals are a solid waste and are subject to RCRA Subtitle C regulation.

See Also: Use Constituting Disposal - Sludge 2
Use Constituting Disposal - Sludge 4
Use Constituting Disposal - Sludge 5

USE CONSTITUTING DISPOSAL - SLUDGE 4

Description of Activity:

Flue dusts from metal refining operations (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their metals content. The metals, which also exhibit EP-toxicity, are used as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is marketed to the general public.

What is the status of the fertilizer?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [X] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[X] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The fertilizer is a waste-derived product that exhibits hazardous waste characteristics. Because it is hazardous and is placed on the land, use of the fertilizer is use constituting disposal. Therefore, the fertilizer is a solid waste. However, because the fertilizer is sold for use by the general public, it is currently exempt from RCRA Subtitle C regulation (see 40 CFR Part 266.20(b)).

See Also: Use Constituting Disposal - Sludge 2
Use Constituting Disposal - Sludge 3
Use Constituting Disposal - Sludge 5

USE CONSTITUTING DISPOSAL - SLUDGE 5

Description of Activity:

Flue dusts from metal refining operations (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their metals content. The metals, which also exhibit EP-toxicity, are used by the refiner as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is not marketed to the general public, but is used by the refiner as a fertilizer on land the refiner owns.

What is the status of the fertilizer?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [X] yes [ ] no

   If yes; go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the fertilizer (i.e., the refiner) is subject to requirements under 40 CFR 262. Transporters of the fertilizer are subject to requirements under 40 CFR 263. The fertilizer manufacturer who uses the fertilizer on-site or off-site, and other parties handling the fertilizer prior to application to the land may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. The generator who stores the fertilizer for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Persons who apply the fertilizer are subject to all applicable regulations governing use constituting disposal under 40 CFR 264 and 265 Subparts A through N. Regulations applicable to recyclable materials used in a manner constituting disposal are summarized under 40 CFR 266 Subpart C.

Discussion:

The fertilizer is a waste-derived product that exhibits a hazardous waste characteristic. Because it is hazardous and placed on the land, use of the fertilizer is use constituting disposal. Therefore, the fertilizer is a solid waste. Because it is not sold for use by the general public, it is subject to RCRA Subtitle C regulation.

See Also: Use Constituting Disposal - Sludge 2
Use Constituting Disposal - Sludge 3
Use Constituting Disposal - Sludge 4

USE CONSTITUTING DISPOSAL - SLUDGE 6

Description of Activity:

A sludge containing heavy metals such as zinc, cadmium, copper, nickel, and lead from a municipal wastewater treatment plant (a sludge exhibiting the characteristic of EP-toxicity) is sold to the public to be applied to cropland as a fertilizer.

What is the status of the sludge?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [X] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[X] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because the sludge is applied to the ground, this activity is classified as use constituting disposal. Therefore, the sludge is defined as a solid and hazardous waste. However, the sludge is not subject to RCRA Subtitle C regulation, since EPA has exempted from regulation materials sold as commercial fertilizers to the general public (see 40 CFR Part 266.20(b)).

USE CONSTITUTING DISPOSAL - BY-PRODUCT 1

Description of Activity:

Brass dross skimmings (a by-product exhibiting the characteristic of EP-toxicity) go through a processor which separates the metals from the oxides. The oxides (which exhibit EP-toxicity) are then sold to a fertilizer company that uses them as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is sold to the general public. The metals are sold to a secondary smelter for recovery of copper and zinc.

What is the status of the dross skimmings?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [X] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the dross skimmings is subject to requirements under 40 CFR 262. Transporters of the dross skimmings are subject to requirements under 40 CFR 263. Generators recycling the dross skimmings on-site, off-site recyclers and other parties handling the dross skimmings prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the dross skimmings for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling the dross skimmings must be managed as hazardous wastes if they themselves exhibit any hazardous characteristics.

Discussion:

Separation of the brass dross skimmings into oxides and metals is a reclamation process. When reclaimed, a characteristic by-product ordinarily is not defined as a solid waste. However, the reclamation step is part of a recycling process that ends with the oxides being placed on the ground. Because the ultimate use of the oxides will involve use constituting disposal, the brass dross skimmings are solid wastes and are subject to RCRA Subtitle C regulation.

See Also: Reclamation - By-Product 1
Use Constituting Disposal - By-Product 2
Use Constituting Disposal - By-Product 3

USE CONSTITUTING DISPOSAL - BY-PRODUCT 2

Description of Activity:

Brass dross skimmings (a by-product exhibiting the characteristic of EP-toxicity) go through a processor which separates the metals from the oxides. The oxides (which exhibit EP-toxicity) are then sold to a fertilizer company that uses them as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is sold to the general public. The metals are sold to a secondary smelter for recovery of copper and zinc.

What is the status of the fertilizer?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If yes, go on to question (2).
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If yes, go on to question (3).
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If yes, go on to question (6).
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no

If yes, go on to question (6a).
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If yes, go on to question (7).
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If yes, go on to question (7).
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[X] yes [ ] no

If yes, go on to question (7a).
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [ ] no

If yes, go on to question (8a).
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[X] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

The fertilizer is a waste-derived product that exhibits a hazardous waste characteristic. Because it is hazardous and is placed on the land, use of the fertilizer is defined as use constituting disposal. Therefore, the fertilizer is a solid waste. However, because the fertilizer is sold for use by the general public, it is exempt from RCRA Subtitle C regulation (see 40 CFR Part 266.20(b)).

<u>See Also</u>: Reclamation - By-Product 1
Use Constituting Disposal - By-Product 1
Use Constituting Disposal - By-Product 3

USE CONSTITUTING DISPOSAL - BY-PRODUCT 3

Description of Activity:

Brass dross skimmings (a by-product exhibiting the characteristic of EP-toxicity) go through a processor which separates the metals from the oxides. The oxides (which exhibit EP-toxicity) are then sold to a fertilizer company that uses them as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is sold to the general public. The metals are sold to a secondary smelter for recovery of copper and zinc.

What is the status of the oxides?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [X] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the oxides (the person who separates the oxides from the metals) is subject to requirements under 40 CFR 262. Transporters of the oxides are subject to requirements under 40 CFR 263. Generators recycling the oxides on-site, off-site recyclers and other parties handling the oxides prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the oxides for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process of incorporating the oxides into the fertilizer is not itself regulated. Residues from recycling the oxides must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

Separation of the brass dross skimmings into oxides and metals is a reclamation process. When reclaimed, a characteristic by-product ordinarily is not defined as a solid waste. However, the reclamation step is part of a recycling process that ends with the oxides being placed on the ground. Because the ultimate use of the oxides will involve use constituting disposal, and the oxides exhibit a hazardous waste characteristic, the oxides are solid wastes and are subject to RCRA Subtitle C regulation.

See Also: Reclamation - By-Product 1
Use Constituting Disposal - By-Product 1
Use Constituting Disposal - By-Product 2

USE CONSTITUTING DISPOSAL - BY-PRODUCT 4

Description of Activity:

Amorphous polypropylene residues (by-products exhibiting the characteristic of ignitability) go through a processor that extracts residual solvents for any reuse as degreasers. The polymeric residues, which do not exhibit hazardous waste characteristics, are blended with asphaltic materials to make (a more crack-resistant) asphalt for sale. The asphalt also does not exhibit any hazardous waste characteristics.

What is the status of the original polypropylene residues?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [X] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the sludges is subject to requirements under 40 CFR 262. Transporters of the sludges are subject to requirements under 40 CFR 263. Generators recycling the sludges on-site, off-site recyclers and other parties handling the sludges prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sludges for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the sludges must be managed as hazardous wastes.

<u>Discussion</u>:

Because material with value -- mercury -- is recovered from the waste, the process is classified as reclamation. Listed by-products that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

USE CONSTITUTING DISPOSAL - NON-HAZARDOUS SECONDARY MATERIAL 1

Description of Activity:

Sulfuric acid from metal finishing operations (a spent material exhibiting the characteristic of corrosivity) is used as an ingredient in fertilizers that are marketed to the general public. The fertilizers themselves do not exhibit hazardous waste characteristics.

What is the status of the fertilizer?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [X] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (excluding commercial chemicals),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the distillation residue (i.e. the ethyl alcohol manufacturer) is subject to requirements under 40 CFR 262. Transporters of the distillation residue are subject to requirements under 40 CFR 263. Generators recycling the distillation residue on-site, off-site recyclers and other parties handling the distillation residue prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the distillation residue for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Hazardous residues from recycling must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics. Burners of hazardous waste fuel are only subject to storage and transportation requirements under 40 CFR 266; the actual burning of these wastes is currently exempt from regulation.

Discussion:

Hazardous residues from recycling practices are considered secondary materials and potential solid wastes. Hazardous secondary materials that are burned as a fuel are considered solid wastes and are subject to RCRA Subtitle C regulation.

See also: Reclamation - Spent Material 6

ENERGY RECOVERY - SPENT MATERIAL 1

Description of Activity:

Industrial ethyl alcohol that has been contaminated by oils, perfumes, or other substances added by a variety of manufacturing practices (a spent material exhibiting the characteristic of ignitability) is returned to the ethyl alcohol manufacturer, where it is distilled and regenerated into new industrial ethyl alcohol. The distillation residue (which also exhibits ignitability) is burned as a fuel.

What is the status of the distillation residue?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [X] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent solvents is subject to requirements under 40 CFR 262. Transporters of the spent solvents are subject to requirements under 40 CFR 263. Generators recycling the spent solvents on-site, off-site recyclers and other parties handling the spent solvents prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent solvents for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Burners of hazardous wastes are only subject to the storage and transportation requirements under 40 CFR 266; the actual burning of these wastes is currently exempt from regulation.

Discussion:

Both listed and characteristic hazardous wastes that are burned as fuels are solid wastes and thus are subject to RCRA Subtitle C regulation.

ENERGY RECOVERY - SPENT MATERIAL 2

Description of Activity:

Hazardous spent solvents from the organic chemicals manufacturing industries (producing basic organic chemicals, organic intermediates, plasticizers, etc.) are burned as fuels in an industrial boiler.

What is the status of the spent solvents?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [X] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent solvents is subject to requirements under 40 CFR 262. Transporters of the spent solvents are subject to requirements under 40 CFR 263. Generators recycling the spent solvents on-site, off-site recyclers and other parties handling the spent solvents prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the solvents for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process of mixing the spent solvents to produce the fuel is exempt from regulation.

Discussion:

Characteristic spent materials that are burned as fuels or used to produce a fuel are solid wastes and are subject to RCRA Subtitle C regulation.

See Also: Energy Recovery - By-Product 3
Energy Recovery - Mixed Material 1

ENERGY RECOVERY - SPENT MATERIAL 3

Description of Activity:

Non-halogenated spent solvents (heavy alcohols, ketones and hydrocarbons, spent materials exhibiting the characteristic of ignitability) and heavy residuals (by-products exhibiting the characteristic of EP-toxicity) from a chemical manufacturing plant are physically mixed into a product that is sold as marine fuel. The fuel exhibits the characteristic of ignitability.

What is the status of the spent solvents?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [X] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the decanter tank tar sludge is subject to requirements under 40 CFR 262. Transporters of the decanter sludge are subject to requirements under 40 CFR 263. Generators recycling the decanter sludge on-site, off-site recyclers and other parties handling the decanter sludge prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the decanter sludge for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Any residues from recycling the sludge must be managed as hazardous wastes.

<u>Discussion</u>:

The decanter tank tar sludge is directly reused as a feedstock in the coking process, but the coke that is produced is burned as a fuel. Although coke is used as both a fuel and a feedstock in blast furnaces, the energy recovery function takes precedence. Because the ultimate activity is burning for energy recovery, the decanter tank tar sludges are solid wastes, and are subject to RCRA Subtitle C regulation.

<u>See Also:</u> Energy Recovery - By-Product 2

ENERGY RECOVERY - BY-PRODUCT 1

Description of Activity:

Decanter tank tar sludge from coking processes (a by-product listed under EPA Hazardous Waste No. K087) is substituted for a raw material -- coal -- in coke ovens, where it is converted into coke. The coke then is used in blast furnaces as a fuel and as an ingredient (providing carbon) in the production of steel.

What is the status of the decanter tank tar sludge?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [X] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (excluding commercial chemicals),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[X] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The coke is derived from a listed by-product and is an intermediate material in a recycling process that ends with burning for energy recovery (although coke is used as both a fuel and a feedstock in blast furnaces, the energy recovery function takes precedence). Therefore, the coke is a solid waste. However, waste-derived coke from the iron and steel industry that contains hazardous waste from the iron and steel production process currently is exempt from RCRA Subtitle C regulation (see 40 CFR 261.6(a)(3)(vii).

See also: Energy Recovery - By Product 1

ENERGY RECOVERY - BY-PRODUCT 2

Description of Activity:

Decanter tank tar sludge from coking processes (a by-product listed under EPA Hazardous Waste No. K087) is substituted for a raw material -- coal -- in coke ovens, where it is converted into coke. The coke then is used in blast furnaces as a fuel and as an ingredient (providing carbon) in the production of steel.

What is the status of the coke?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [X] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the heavy residuals is subject to requirements under 40 CFR 262. Transporters of the residuals are subject to requirements under 40 CFR 263. Generators recycling the residuals on-site, off-site recyclers and other parties handling the residuals prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the residuals for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The process of mixing the heavy residuals to produce the fuel is exempt from regulation.

Discussion:

Characteristic by-products that are burned as fuels or used to produce a fuel are solid wastes and are subject to RCRA Subtitle C regulation.

See Also: Energy Recovery - Spent Material 3
Energy Recovery - Mixed Material 1

ENERGY RECOVERY - BY-PRODUCT 3

Description of Activity:

Non-halogenated spent solvents (heavy alcohols, ketones and hydrocarbons, spent materials exhibiting the characteristic of ignitability) and heavy residuals (by-products exhibiting the characteristic of EP-toxicity) from a chemical manufacturing plant are physically mixed into a product that is sold as marine fuel. The fuel exhibits the characteristic of ignitability.

What is the status of the heavy residuals?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [X] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the decanter tank tar sludge is subject to requirements under 40 CFR 262. Transporters of the decanter sludge are subject to requirements under 40 CFR 263. Generators recycling the decanter sludge on-site, off-site recyclers and other parties handling the decanter sludge prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the decanter sludge for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Burners of the decanter sludge are only subject to storage and transportation requirements under 40 CFR 266; the actual burning of these wastes is currently exempt from regulation.

Discussion:

Listed by-products that are burned for energy recovery are solid wastes and are subject to RCRA Subtitle C regulation.

ENERGY RECOVERY - BY-PRODUCT 4

Description of Activity:

Decanter tank tar sludge from coking operations (a by-product listed under EPA Hazardous Waste No. K087) is burned as a fuel.

What is the status of the decanter tank tar sludge?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [X] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the fuel (the person who mixes the solvents and residuals) is subject to requirements under 40 CFR 262. Transporters of the fuel are subject to requirements under 40 CFR 263. Generators recycling the fuel on-site, off-site recyclers and other parties handling the fuel prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the fuel for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The actual burning of these fuels is currently exempt from regulation.

<u>Discussion</u>:

The fuel is the product of the mixing of characteristic hazardous wastes and itself exhibits a hazardous waste characteristic. Therefore, the fuel is a solid and hazardous waste and is subject to RCRA Subtitle C transportation and storage regulation.

<u>See Also</u>: Energy Recovery - Spent Material 3
Energy Recovery - By-Product 3

ENERGY RECOVERY - MIXED MATERIAL 1

Description of Activity:

Non-halogenated spent solvents (heavy alcohols, ketones and hydrocarbons, spent materials exhibiting the characteristic of ignitability) and heavy residuals (by-products exhibiting the characteristic of EP-toxicity) from a chemical manufacturing plant are physically mixed into a product that is sold as marine fuel. The fuel exhibits the characteristic of ignitability.

What is the status of the marine fuel?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [X] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Pipeline condensate is off-specification fuel. Off-specification fuels that are burned for energy recovery are not solid wastes, and are not subject to RCRA Subtitle C regulation.

ENERGY RECOVERY - NON-SECONDARY MATERIAL 1

Description of Activity:

Pipeline condensate from natural gas transmission accumulates in the pipeline as it is generated. When pipelines are cleaned, the condensate (which exhibits the characteristic of ignitability) is stored in above-ground steel tanks until it is sold to firms using it as a fuel.

What is the status of the pipeline condensate?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a *closed-loop process*)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the *definitions of activities* in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. *See* applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the *definitions of activities* in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. Owners or operators of facilities that store spent lead-acid batteries before reclaiming them are subject to notification requirements under Section 3010 of RCRA and to storage facility requirements under 40 CFR 264 and 265 Subparts A through L (waste analysis requirements under 40 CFR 264.13 and 265.13, and manifest requirements under 40 CFR 264.71, 264.72, 265.71, and 265.72 do not apply, however). Persons who generate, transport, or collect spent batteries, or who store spent batteries but do not reclaim them are not subject to regulation under Parts 262 through 266, *and also are not subject to Section 3010 of RCRA*. Requirements applicable to spent lead-acid batteries being reclaimed are summarized under 40 CFR 266 Subpart G.

<u>Discussion</u>:

Spent lead-acid batteries are defined as spent materials. Because material with value -- the lead -- is recovered from the batteries, the activity is classified as reclamation. EPA has issued a set of regulations stating that when reclaimed, lead-acid batteries are solid wastes but are subject to a reduced set of requirements. The batteries are regulated when stored by the person who is reclaiming them (i.e., the battery cracker) but are not regulated when handled by persons other than reclaimers prior to the reclamation.

<u>See Also</u>: Reclamation - Spent Material 2

RECLAMATION - SPENT MATERIAL 1

Description of Activity:

Spent lead-acid batteries (spent materials exhibiting the characteristics of corrosivity and EP-toxicity) are split by battery crackers, and their contents (lead and oxides) are stored in a pile. The lead and oxides, which still exhibit EP-toxicity, are then shipped to a secondary lead smelter to recover the lead.

What is the status of the lead-acid batteries?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[X] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the lead and oxides (the battery cracker) is subject to requirements under 40 CFR 262. Transporters of the lead and oxides are subject to requirements under 40 CFR 263. Generators recycling the lead and oxides on-site, off-site recyclers and other parties handling the lead and oxides prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the lead and oxides for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues from recycling the lead and oxides must be managed as hazardous wastes if they themselves exhibit any hazardous characteristics.

Discussion:

Because battery cracking does not complete the reclamation process, the lead and oxides, like the batteries are characteristic spent materials. Smelting of these materials to recover lead constitutes reclamation of a characteristic spent material. Thus, the lead and oxides are solid wastes and are subject to RCRA Subtitle C regulation.

See Also: Reclamation - Spent Materials 1

RECLAMATION - SPENT MATERIAL 2

Description of Activity:

Spent lead-acid batteries (spent materials exhibiting the characteristics of corrosivity and EP-toxicity) are split by battery crackers, and their contents (lead and oxides) are stored in a pile. The lead and oxides, which still exhibit EP-toxicity, are then shipped to a secondary lead smelter to recover the lead.

What is the status of the used batteries?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[X] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Because the batteries are regenerated by the manufacturer, the activity is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes. However, EPA has issued an exemption stating that when they are returned to the manufacturer for regeneration, used batteries are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated (see 40 CFR 261.6(a)(3)(ii)).

RECLAMATION - SPENT MATERIAL 3

Description of Activity:

Used batteries from consumers (spent materials exhibiting the characteristic of EP-toxicity) are returned to a battery manufacturer, who adds electrolytes and replaces bad cells to regenerate the batteries. The restored batteries can then be reused.

What is the status of the used batteries?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent chromic acid is subject to requirements under 40 CFR 262. Transporters of the spent chromic acid are subject to requirements under 40 CFR 263. Generators recycling the spent chromic acid on-site, off-site recyclers and other parties handling the spent chromic acid prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent chromic acid for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent chromic acid (such as the resin) must be managed as hazardous wastes.

Discussion:

Because the acid is regenerated, the process is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and are subject to RCRA Subtitle C regulation. (The regenerated acid is no longer a waste, but a product.)

See Also: Reclamation - Sludge 3
Other - Non-Secondary Material 9
Other - Non-Secondary Material 12

RECLAMATION - SPENT MATERIAL 4

Description of Activity:

Spent chromic acid from metal finishing plating baths (a spent material listed under EPA Hazardous Waste No. F007) is neutralized and goes through an ion exchange process that removes the chromium. The acid is regenerated and returned to the metal finishing plating bath. The ion exchange resin (a listed sludge -- the residue derived from the treatment of a listed waste) is treated with sodium hydroxide solution to remove any impurities. The resin is then returned to the ion exchange column.

What is the status of the contaminated ion exchange resin?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent toluene is subject to requirements under 40 CFR 262. Transporters of the spent toluene are subject to requirements under 40 CFR 263. Generators recycling the spent toluene on-site, off-site recyclers and other parties handling the spent toluene prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent toluene for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the spent toluene must be managed as hazardous wastes.

Discussion:

Because the toluene is recovered, the process is classified as reclamation. Listed spent materials that are reclaimed are defined as solid wastes and are subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 5

Description of Activity:

Spent toluene that was used as a solvent in a manufacturing process (a spent material listed under EPA Hazardous Waste No. F005) is adsorbed in an on-site carbon adsorption system. After the adsorption and desorption processes, the solvent is decanted from water and reused in the original process.

What is the status of the spent toluene?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[X] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because the ethyl alcohol is regenerated, the process is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes. However, because reclamation of industrial ethyl alcohol is regulated by the Bureau of Alcohol, Tobacco and Firearms, EPA has exempted the material from RCRA Subtitle C regulation.

See Also: Energy Recovery - Spent Material 1

RECLAMATION - SPENT MATERIAL 6

Description of Activity:

Industrial ethyl alcohol that has been contaminated by oils, perfumes, or other substances added by a variety of manufacturing practices (a spent material exhibiting the characteristic of ignitability) is returned to the ethyl alcohol manufacturer, where it is distilled and regenerated into new industrial ethyl alcohol. The distillation residue (which also exhibits ignitability) is burned as a fuel.

What is the status of the original contaminated ethyl alcohol?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent pickle liquor is subject to requirements under 40 CFR 262. Transporters of the spent pickle liquor are subject to requirements under 40 CFR 263. Generators recycling the spent pickle liquor on-site, off-site recyclers and other parties handling the spent pickle liquor prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent pickle liquor for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process -- the surface impoundment itself -- is not regulated. Any residues from recycling must be managed as hazardous wastes.

Discussion:

The evaporation that occurs in the surface impoundment is a reclamation step. Listed spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 7

Description of Activity:

Spent pickle liquor (a spent material listed under EPA Hazardous Waste No. K062) is placed in an impoundment to evaporate water and recover concentrated ferrous chloride, which is used as an ingredient to produce ferric chloride.

What is the status of the spent pickle liquor?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent catalyst is subject to requirements under 40 CFR 262. Transporters of the catalyst are subject to requirements under 40 CFR 263. Generators recycling the catalyst on-site, off-site recylers and other parties handling the catalyst prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the catalyst for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is exempt from regulation. Residues derived from recycling the catalyst must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because material with value -- vanadium -- is recovered from the catalyst, the activity is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes, and are thus subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 8

Description of Activity:

A spent Ziegler Natta polymerization catalyst containing aluminum trichloride and vanadium trichloride from a chemicals manufacturing plant (a spent material exhibiting the characteristic of corrosivity) is processed to recover vanadium for commercial applications.

What is the status of the spent catalyst?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent solvents is subject to requirements under 40 CFR 262. Transporters of the spent solvents are subject to requirements under 40 CFR 263. Generators recycling the spent solvents on-site, off-site recyclers and other parties handling the spent solvents prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent solvents for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent solvents must be managed as hazardous wastes.

Discussion:

Because the solvents are regenerated by carbon adsorption and distillation, the activity is defined as reclamation. Listed spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 9

Description of Activity:

Spent contaminated solvents from the manufacture of printed circuit boards (spent materials listed under EPA Hazardous Waste Nos. F001-F005) are regenerated through activated carbon adsorbers. The resulting liquid is distilled to recover the solvents, which are returned to their original use.

What is the status of the contaminated solvents prior to regeneration by carbon adsorption and distillation?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the contaminated methylene chloride is subject to requirements under 40 CFR 262. Transporters of the contaminated methylene chloride are subject to requirements under 40 CFR 263. Generators recycling the methylene chloride on-site, off-site recyclers and other parties handling the methylene chloride prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the methylene chloride for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the methylene chloride must be managed as hazardous wastes.

Discussion:

Because the contaminated methylene chloride is regenerated, the activity is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 10

Description of Activity:

Contaminated methylene chloride that was used as a solvent in industrial applications (a halogenated spent material listed under EPA Hazardous Waste No. F002) is regenerated through distillation and reused in the original process.

What is the status of the contaminated solvent?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below,
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the waste acid is subject to requirements under 40 CFR 262. Transporters of the spent acid are subject to requirements under 40 CFR 263. Generators recycling the spent acid on-site, off-site recyclers and other parties handling the spent acid prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent acid for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues from recycling must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics .

Discussion:

Because the spent acid is regenerated, and material with value -- copper -- is recovered, the activity is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

See Also: Other - Non-Secondary Material 6

RECLAMATION - SPENT MATERIAL 11

Description of Activity:

Spent acid from a brass mill (a spent material exhibiting the characteristics of corrosivity and EP-toxicity) is reclaimed for its copper content. The copper is then reused as an ingredient in the production of brass. The regenerated acid is returned to its original use.

What is the status of the spent acid?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CRF 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent carbon is subject to requirements under 40 CFR 262. Transporters of the spent carbon are subject to requirements under 40 CFR 263. Generators recycling the spent carbon on-site, off-site recyclers and other parties handling the spent carbon prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent carbon for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the spent carbon must be managed as hazardous wastes.

Discussion:

Because the spent carbon is regenerated prior to reuse, the activity is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 12

Description of Activity:

Spent carbon from decolorization operations in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds (a spent material listed under EPA Hazardous Waste No. K102) is regenerated and reused in the original process.

What is the status of the spent carbon?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the acid etching solution is subject to requirements under 40 CFR 262. Transporters of the acid etching solution are subject to requirements under 40 CFR 263. Generators recycling the acid etching solution on-site, off-site recyclers and other parties handling the acid etching solution prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the acid etching solution for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues from recycling the acid etching solution must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because material with value -- the zinc -- is reclaimed from the waste, the activity is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

See Also: Use Constituting Disposal - Spent Material 1
Other - Non-Secondary Material 7
Other - Non-Hazardous Secondary Material 3
Other - Non-Hazardous Secondary Material 4

RECLAMATION - SPENT MATERIAL 13

Description of Activity:

An acid etching solution (a spent material exhibiting the characteristic of corrosivity) is reclaimed for its zinc content. The zinc is then used as an ingredient in paint manufacture.

What is the status of the acid etching solution?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent pickle liquor is subject to requirements under 40 CFR 262. Transporters of the spent pickle liquor are subject to requirements under 40 CFR 263. Generators recycling the spent pickle liquor on-site, off-site recyclers and other parties handling the spent pickle liquor prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent pickle liquor for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent pickle liquor must be managed as hazardous wastes.

Discussion:

Because the pickle liquor is regenerated prior to reuse, the activity is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 14

Description of Activity:

Spent pickle liquor (a spent material listed under EPA Hazardous Waste No. K062) is regenerated by a liquid-liquid extraction process, and reused in steel pickling operations.

What is the status of the spent pickle liquor?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under VFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent bright dipping solution is subject to requirements under 40 CFR 262. Transporters of the spent bright dipping solution are subject to requirements under 40 CFR 263. Generators recycling the spent bright dipping solution on-site, off-site recyclers and other parties handling the spent bright dipping solution prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent bright dipping solution for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the spent bright dipping solution must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

Discussion:

The initial ion exchange process is a reclamation step. Characteristic spent materials that are reclaimed are solid wastes, and are thus subject to RCRA Subtitle C regulation.

See Also: Reclamation - Spent Material 16
Reclamation - Spent Material 17

RECLAMATION - SPENT MATERIAL 15

Description of Activity:

Spent bright dipping solution -- a phosphoric acid/nitric acid solution -- (a spent material exhibiting the characteristic of corrosivity) goes through an ion exchange process. Aluminum is recovered from the resin (which is EP-toxic) and is treated with sulfuric acid to produce aluminum sulfate. The liquid (which also exhibits corrosivity) is further evaporated and recondensed to remove impurities, and the purified acid is reused in the bright dipping process.

What is the status of the spent bright dipping solution?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If yes, go on to question (2).
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If yes, go on to question (3).
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If yes, go on to question (6).
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no

If yes, go on to question (6a).
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If yes, go on to question (7).
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If yes, go on to question (7).
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes [X] no

If yes, go on to question (7a).
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [X] no

If yes, go on to question (8a).
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the process exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the liquid is subject to requirements under 40 CFR 262. Transporters of the liquid are subject to requirements under 40 CFR 263. Generators recycling the liquid on-site, off-site recyclers and other parties handling the liquid prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the liquid for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

<u>Discussion:</u>

The liquid is a product of the reclamation of a characteristic spent material. Such materials are not solid wastes themselves unless they exhibit a hazardous characteristic and (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) must be further reclaimed before they can be reused. In this case the liquid exhibits corrosivity, and further reclamation steps -- evaporation and recondensation -- are required before the liquid can be reused. Thus the liquids are solid wastes and therefore are subject to RCRA Subtitle C regulation.

<u>See Also:</u> Reclamation - Spent Material 15
Reclamation - Spent Material 17

RECLAMATION - SPENT MATERIAL 16

Description of Activity:

Spent bright dipping solution -- a phosphoric acid/nitric acid solution -- (a spent material exhibiting the characteristic of corrosivity) goes through an ion exchange process. Aluminum is recovered from the resin (which is EP-toxic) and is treated with sulfuric acid to produce aluminum sulfate. The liquid (which also exhibits corrosivity) is further evaporated and recondensed to remove impurities, and the purified acid is reused in the bright dipping process.

What is the status of the corrosive liquid that must be evaporated and recondensed before reuse?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application t the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the resin is subject to requirements under 40 CFR 262. Transporters of the resin are subject to requirements under 40 CFR 263. Generators recycling the resin on-site, off-site recyclers and other parties handling the resin prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the resin for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues from recycling must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

Discussion:

The resin is a residue derived from the reclamation of a characteristic spent material. Such residues are solid wastes if they themselves exhibit a hazardous characteristic. In this case, the resin (which exhibits EP-toxicity) is further reclaimed for its aluminum content, which is used in the production of aluminum sulfate. Because the resin is hazardous, it is a solid waste and is subject to RCRA Subtitle C regulation.

See also: Reclamation - Spent Material 15
Reclamation - Spent Material 16

RECLAMATION - SPENT MATERIAL 17

Description of Activity:

Spent bright dipping solution -- a phosphoric acid/nitric acid solution -- (a spent material exhibiting the characteristic of corrosivity) goes through an ion exhange process. Aluminum is recovered from the resin (which is EP-toxic), and is treated with sulfuric acid to produce aluminum sulfate. The liquid (which also exhibits corrosivity) is further evaporated and recondensed to remove impurities, and the purified acid is reused in the bright dipping process.

What is the status of the resin prior to being reclaimed?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The. generator of the spent solvents is subject to requirements under 40 CFR 262. Transporters of the spent solvents are subject to requirements under 40 CFR 263. Generators recycling the spent solvents on-site, off-site recyclers and other parties handling the spent solvents prior to carbon adsorption may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent solvents for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent solvents must be managed as hazardous wastes.

Discussion:

Because the solvents are regenerated, the process is classified as reclamation. Listed spent materials that are reclaimed are defined as solid wastes and are thus subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 18

Description of Activity:

Spent solvents contaminated by inks used in the printing and publishing (graphic arts) industry (spent materials listed under EPA Hazardous Waste No. K086) are recovered in carbon adsorption systems, regenerated and returned to their original use.

What is the status of the spent solvents?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent cyanide plating bath is subject to requirements under 40 CFR 262. Transporters of the spent cyanide plating bath are subject to requirements under 40 CFR 263. Generators recycling the spent cyanide plating baths on-site, off-site recyclers and other parties handling the spent cyanide plating baths prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent cyanide plating bath for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent cyanide plating baths must be managed as hazardous wastes.

<u>Discussion</u>:

Since evaporation of the plating bath solution separates the liquid and solid constituents for recovery and reuse, the evaporation process constitutes reclamation. Listed spent materials that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

<u>See also</u>: Other - Non-Secondary 8
Reclamation - Spent Material 20

RECLAMATION - SPENT MATERIAL 19

Description of Activity:

A spent cyanide plating bath solution from electroplating operations (a spent material listed under EPA Hazardous Waste No. F007) goes through an evaporation process to separate its liquid and solid constituents. The liquids are purified in activated carbon beds, yielding water, which is recycled to the rinsing operations. The solids are directly recycled to the plating operations.

What is the status of the spent cyanide plating bath?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the liquids is subject to requirements under 40 CFR 262. Transporters of the liquids are subject to requirements under 40 CFR 263. Generators recycling the liquids on-site, off-site recyclers and other parties handling the liquids prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the liquids for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the liquids must be managed as hazardous wastes.

Discussion:

The liquids are a product of the reclamation of a listed hazardous waste. Such products are not solid wastes themselves unless they (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) must be further reclaimed before they can be reused. In this case, the liquids thus must go through activated carbon adsorption before the purified water is recycled to the rinsing operations. Purification of the liquids constitutes further reclamation. Therefore, the liquids are a solid waste and are subject to RCRA Subtitle C regulation.

See also: Other - Non-Secondary Material 8
Reclamation - Spent Material 19

RECLAMATION - SPENT MATERIAL 20

Description of Activity:

A spent cyanide plating bath solution from electroplating operations (a spent material listed under EPA Hazardous Waste No. F007) goes through an evaporation process to separate its liquid and solid constituents. The liquids are purified in activated carbon beds, yielding water, which is recycled to the rinsing operations. The solids are directly recycled to the plating operations.

What is the status of the liquid materials that must be purified before they are recycled to the rinsing operations?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent solvents is subject to requirements under 40 CFR 262. Transporters of the spent solvents are subject to requirements under 40 CFR 263. Generators recycling the spent solvents on-site, off-site recyclers and other parties handling the spent solvents prior to distillation may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent solvents for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent solvents must be managed as hazardous wastes.

Discussion:

Because the solvents are regnerated through distillation, the process is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 21

Description of Activity:

Spent solvents from scouring and degreasing operations in the wool industry, contaminated with lanolin and other greases, (spent materials listed under EPA Hazardous Waste Nos. F001-F005) are distilled and reused in the original process.

What is the status of the spent solvents?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent acetone is subject to requirements under 40 CFR 262. Transporters of the acetone are subject to requirements under 40 CFR 263. Generators recycling the acetone on-site, off-site recyclers and other parties handling the acetone prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the acetone for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the acetone must be managed as hazardous wastes.

Discussion:

Because the acetone is regenerated, the process is defined as reclamation. Listed spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 22

Description of Activity:

Spent acetone used in cleaning processes (a spent material listed under EPA Hazardous Waste No. F003) is redistilled in an acetone recovery machine and reused for cleanup.

What is the status of the spent acetone?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the plating bath rinsewater is subject to requirements under 40 CFR 262. Transporters of the rinsewater are subject to requirements under 40 CFR 263. Generators recycling the rinsewater on-site, off-site recyclers and other parties handling the rinsewater prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the rinsewater for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the rinsewater must be managed as hazardous wastes, if they themselves exhibit any hazardous characteristics.

Discussion:

The reverse osmosis and evaporation processes are reclamation steps. Characteristic spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

See Also: Other - Non-Secondary Material 14

RECLAMATION - SPENT MATERIAL 23

Description of Activity:

Plating bath rinsewaters from copper and zinc electroplating operations (spent materials exhibiting the characteristic of EP-toxicity) are concentrated in a reverse osmosis system and an evaporator. The distillate, which does not exhibit hazardous characteristics, is recycled as process water. The concentrate, which exhibits the characteristic of EP-toxicity, is recycled to the plating baths.

What is the status of the plating bath rinsewaters?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent methanol is subject to requirements under 40 CFR 262. Transporters of the methanol are subject to requirements under 40 CFR 263. Generators recycling the methanol on-site, off-site recyclers and other parties handling the methanol prior to the on-site recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the methanol for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the methanol must be managed as hazardous wastes.

Discussion:

Because the methanol is regenerated, the activity is classified as reclamation. Listed spent material that are reclaimed are solid wastes and are subject to RCRA Subtitle C regulation.

See Also: Other - Non-Secondary Material 15

RECLAMATION - SPENT MATERIAL 24

Description of Activity:

Spent methanol that was used as a solvent in pharmaceutical manufacturing operations (a spent material listed under EPA Hazardous Waste No. F003) goes through a reclamation process on site that regenerates the methanol to better than 99.5 percent purity. When sent off-site for reuse in a variety of manufacturing processes, it must undergo further reclamation.

What is the status of the spent methanol?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the waste etchants is subject to requirements under 40 CFR 262. Transporters of the etchants are subject to requirements under 40 CFR 263. Generators recycling the etchants on-site, off-site recyclers and other parties handling the etchants prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the etchants for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues from recycling the etchants must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because the etchants are regenerated, the process is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

See Also: Other - Non-Hazardous Secondary Material 8

RECLAMATION - SPENT MATERIAL 25

Description of Activity:

Waste etchants containing chromium and sulfuric acid from surface-finishing operations, (a spent material exhibiting the characteristics of EP-toxicity and corrosivity), are treated with a substrate, producing trivalent chromium. The other metals (which do not exhibit hazardous characteristics) are transferred to a catholyte and then sold to a secondary smelter for reclamation, leaving a regenerated etchant.

What is the status of the waste etchants?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[X] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the contaminated isopropyl alcohol is subject to requirements under 40 CFR 262. Transporters of the alcohol are subject to requirements under 40 CFR 263. Generators recycling the alcohol on-site, off-site recyclers and other parties handling the alcohol prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the alcohol for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Residues derived from recycling the alcohol must be managed as hazardous wastes, if they themselves exhibit any hazardous waste characteristics.

Discussion:

Because the isopropyl alcohol is regenerated, the process is classified as reclamation. Characteristic spent materials that are reclaimed are solid wastes. Although industrial ethyl alcohol is exempt from RCRA when regenerated, isopropyl and other alcohols are subject to RCRA Subtitle C regulation.

See Also: Reclamation - Spent Material 6
Energy Recovery - Spent Material 1

RECLAMATION - SPENT MATERIAL 26

Description of Activity:

Isopropyl alcohol that has been contaminated by oils, perfumes, or other substances added by a variety of manufacturing practices (a spent material exhibiting the characteristic of corrosivity) is returned to the isopropyl alcohol manufacturer, where it is distilled and regenerated into pure isopropyl alcohol.

What is the status of the contaminated isopropyl alcohol?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent methyl ethyl ketone is subject to requirements under 40 CFR 262. Transporters of the spent methyl ethyl ketone are subject to requirements under 40 CFR 263. Generators recycling the spent methyl ethyl ketone on-site, off-site recyclers and other parties handling the spent methyl ethyl ketone prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent methyl ethyl ketone for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues from recycling the spent methyl ethyl ketone must be managed as hazardous wastes.

Discussion:

Because the spent methyl ethyl ketone must be reclaimed before being reused, the process is classified as reclamation. Listed spent materials that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

RECLAMATION - SPENT MATERIAL 27

Description of Activity:

Spent methyl ethyl ketone (a spent material listed under EPA Hazardous Waste No. F005) is reclaimed and used as an adhesive thinner for quick drying when applied on the magnesium casting in the assembling of chain saws and string trimmers.

What is the status of the spent methyl ethyl ketone?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent activated carbon is subject to requirements under 40 CFR 262. Transporters of the spent activated carbon are subject to requirements under 40 CFR 263. Generators recycling the spent activated carbon on-site, off-site recyclers and other parties handling the spent activated carbon prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent activated carbon for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent activated carbon must be managed as hazardous wastes.

Discussion:

The spent activated carbon is a listed sludge because it is a pollution control residue derived from the treatment of a listed waste. Because the activated carbon is regenerated, the process is defined as reclamation. Listed sludges that are reclaimed are solid wastes and are subject to RCRA Subtitle C regulation.

See Also: Other - Non-Secondary Material 1

RECLAMATION - SLUDGE 1

Description of Activity:

Spent activated carbon (charcoal) from the pollution control treatment of a listed hazardous waste (a listed sludge) is regenerated.

What is the status of the spent carbon?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. Because the sludge is reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or any combination of these precious metals, generators, transporters and storers of the sludge are subject to notification requirements under Section 3010 of RCRA. The generator of the sludge is subject to requirements under Subpart B of 40 CFR Part 262. Transporters of the sludge are subject to requirements under 40 CFR 263.20 and 263.21, and persons who store the sludge are subject to requirements under 40 CFR 265.71 and 265.72. In addition, persons who store the wastes are subject to recordkeeping requirements under 40 CFR 266.70 to show that the sludge is not speculatively accumulated. Requirements applicable to precious metal reclamation are summarized under 40 CFR 266, Subpart F.

Discussion:

Because materials with value -- the metals -- are recovered from the sludge, the activity is classified as reclamation. Listed sludges that are reclaimed are solid wastes, and are subject to RCRA Subtitle C regulation. However, because precious metals are being recovered, the material is subject only to RCRA requirements pertaining to notification, manifesting (if sent off-site), record-keeping, and overaccumulation.

RECLAMATION - SLUDGE 2

Description of Activity:

Wastewater treatment sludge from metal finishing operations (a sludge listed under EPA Hazardous Waste No. F006) is reclaimed for the precious metals it contains: gold, silver, platinum, palladium, iridium, osmium, rhodium, or ruthenium. The precious metals are returned to the metal finishing operation.

What is the status of the sludge?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the contaminated ion exchange resin is subject to requirements under 40 CFR 262. Transporters of the resin are subject to requirements under 40 CFR 263. Generators recycling the resin on-site, off-site recyclers and other parties handling the resin prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the resin for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Any residues derived from recycling the resin must be managed as hazardous wastes.

Discussion:

Because the contaminated ion exchange resin is regenerated, the process is classified as reclamation. Listed sludges that are reclaimed are solid wastes and are subject to RCRA Subtitle C regulation. (The ion exchange resin is deemed to be listed because it is derived from treating a listed waste. See 50 FR 619 n.7.)

See Also: Reclamation - Spent Material 4
Other - Non-Secondary Material 9
Other - Non-Secondary Material 12

RECLAMATION - SLUDGE 3

Description of Activity:

Spent chromic acid from metal finishing plating baths (a spent material listed under EPA Hazardous Waste No. F007) is neutralized and goes through an ion exchange process that removes the chromium. The acid is regenerated and returned to the metal finishing plating bath. The ion exchange resin (a listed sludge -- the residue derived from the treatment of a listed waste) is treated with sodium hydroxide solution to remove any impurities. It is then returned to the ion exchange column.

What is the status of the contaminated ion exchange resin?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

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10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because the ion exchange resins are regenerated, the process is classified as reclamation. Characteristic sludges that are reclaimed are not solid wastes and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the ion exchange resins are not a solid waste and are not subject to RCRA Subtitle C regulation. If EPA were to list these sludges, the Agency would consider the factors set forth at 50 FR 641.

RECLAMATION - SLUDGE 4

Description of Activity:

Contaminated ion exchange resins from pollution control measures in the production of phenoxy herbicides and their intermediates (a sludge exhibiting the characteristic of EP-toxicity) are regenerated through the addition of methanol and distillation of the regenerant solution.

What is the status of the contaminated ion exchange resins?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

When reclaimed, characteristic sludges are not solid wastes and are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated, or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the emission control dust is not a solid waste and is not subject to RCRA Subtitle C regulation.

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RECLAMATION - SLUDGE 5

Description of Activity:

Emission control dust from a primary zinc smelting furnace (a sludge exhibiting the characteristic of EP-toxicity) is reclaimed to recover zinc, which is returned to the zinc production process.

What is the status of the emission control dust?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent carbon is subject to requirements under 40 CFR 262. Transporters of the spent carbon are subject to requirements under 40 CFR 263. Generators recycling the spent carbon on-site, off-site recyclers and other parties handling the spent carbon prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the spent carbon for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the spent carbon must be managed as hazardous wastes.

Discussion:

Because the spent carbon is regenerated prior to reuse, the activity is defined as reclamation. When reclaimed, listed sludges are solid wastes and thus are subject to RCRA Subtitle C regulation. (The spent carbon is deemed to be listed becuase it is derived from treating a listed waste. See 50 FR at 619 n.7.)

RECLAMATION - SLUDGE 6

Description of Activity:

Spent carbon from the treatment of wastewater containing explosives (a sludge listed under EPA Hazardous Waste No. K045) is regenerated and reused in the wastewater treatment process.

What is the status of the spent carbon?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because material with value -- the zinc -- is recovered from the baghouse dusts, the process is classified as reclamation. Characteristic sludges that are reclaimed are not solid wastes and thus are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply to this case, the baghouse dusts are not a solid waste and are thus not subject to RCRA Subtitle C regulation.

RECLAMATION - SLUDGE 7

Description of Activity:

Baghouse dusts from brass mills (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their zinc content by secondary zinc smelters. The zinc is sold back to the mill for use as an ingredient in the production of brass.

What is the status of the baghouse dusts?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Because material with value -- the cadmium -- is recovered, the process is classified as reclamation. Characteristic sludges that are reclaimed are not solid wastes and are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply to this case, the emission control dust is not a solid waste and thus is not subject to RCRA Subtitle C regulation. [Note: This operation would not be defined as a closed-loop process since the cadmium recovery operation is an ancilliary unit operation to the zinc smelting furnace.]

RECLAMATION - SLUDGE 8

Description of Activity:

Emission control dust from a zinc smelting furnace (a sludge exhibiting the characteristic of EP-toxicity) is sent to a by-product cadmium recovery operation. The cadmium is then sold to metal finishers for use in electroplating operations.

What is the status of the emission control dust?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [.] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the sludge is subject to requirements under 40 CFR 262. Transporters of the sludge are subject to requirements under 40 CFR 263. Generators recycling the sludge on-site, off-site recyclers and other parties handling the sludge prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sludge for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the sludge must be managed as hazardous wastes.

Discussion:

Because this sludge is dewatered and materials with value -- the metals -- are recovered from it, the process is classified as reclamation. Listed sludges that are reclaimed are solid wastes and thus are subject to RCRA Subtitle C regulation.

RECLAMATION - SLUDGE 9

Description of Activity:

Electroplating sludge from the wastewater treatment processes of an electronics and computer manufacturing firm (a sludge listed under EPA Hazardous Waste No. F006) is dewatered and reclaimed for its metals content, after which the metals (mostly copper) are sold.

What is the status of the sludge?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Because material with value -- the zinc -- is recovered from the flue dusts, the process is classified as reclamation. Characteristic sludges that are reclaimed are not solid wastes and are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the flue dusts are not a solid waste and are thus not subject to RCRA Subtitle C regulation.

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RECLAMATION - SLUDGE 10

Description of Activity:

Flue dusts from secondary copper smelters (a sludge exhibiting the characteristic of EP-toxicity) are reclaimed for their zinc content by secondary zinc smelters. The zinc is sold for use as an ingredient in the production of galvanized metals.

What is the status of the flue dusts?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Because material with value -- zinc -- is recovered from the electrostatic precipitator ash, the process is classified as reclamation. Characteristic sludges that are reclaimed are not solid wastes, and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the ash is not a solid waste and thus is not subject to RCRA Subtitle C regulation.

RECLAMATION - SLUDGE 11

Description of Activity:

Electrostatic precipitator ash from refuse incineration flue gas in municipal incinerators (a sludge exhibiting the characteristic of EP-toxicity) is extended with a weak acidic solution to dissolve zinc. The zinc is then extracted with an organic solvent and stripped electrolytically, yielding 100 percent pure zinc that can be used in the production of galvanized metals.

What is the status of the electrostatic precipitator ash?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33,

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Because separation of the metals and oxides does not complete the reclamation process, the metals, like the unprocessed dross skimmings, are a characteristic by-product. Smelting of the metals to recover copper and zinc constitutes reclamation. Characteristic by-products that are reclaimed are not solid wastes and are not subject to RCRA Subtitle C regulation.

<u>See Also</u>: Use Constituting Disposal - By-Product 1
Use Constituting Disposal - By-Product 2

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RECLAMATION - BY-PRODUCT 1

Description of Activity:

Brass dross skimmings (a by-product exhibiting the characteristic of EP-toxicity) go through a processor which separates the metals from the oxides. The oxides (which exhibit EP-toxicity) are then sold to a fertilizer company that uses them as an ingredient in fertilizer. The fertilizer, which also exhibits EP-toxicity, is sold to the general public. The metals, which also exhibit EP-toxicity, are sold to a secondary smelter for recovery of copper and zinc.

What is the status of the metals?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the column bottoms and heavy ends is subject to requirements under 40 CFR 262. Transporters of the column bottoms and heavy ends are subject to requirements under 40 CFR 263. Generators recycling the column bottoms and heavy ends on-site, off-site recyclers and other parties handling the column bottoms and heavy ends prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the column bottoms and heavy ends for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling must be managed as hazardous wastes.

Discussion:

Stripping of volatile materials and distillation to recover hexachlorobutadiene are reclamation steps. Listed by-products that are reclaimed are solid wastes and are subject to RCRA Subtitle C regulation.

See Also: Other - Non-Secondary Material 5

RECLAMATION - BY-PRODUCT 2

Description of Activity:

Column bottoms and heavy ends containing hexachlorobutadiene from the production of perchlorethlyene (a by-product that is listed under EPA Hazardous Waste No. K030) are stripped of volatile materials (which are recycled back into the perchlorethylene process) and further distilled to recover marketable hexachlorobutadiene.

What is the status of the column bottoms and heavy ends?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the still bottoms is subject to requirements under 40 CFR 262. Transporters of the still bottoms are subject to requirements under 40 CFR 263. Generators recycling still bottoms on-site, off-site recyclers and other parties handling the still bottoms prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the still bottoms for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the still bottoms must be managed as hazardous wastes.

Discussion:

Because materials with value -- the chlorides -- are reclaimed from the still bottoms, the process is classified as reclamation. Listed wastes that are reclaimed are solid wastes, and are thus subject to RCRA Subtitle C regulation.

See Also: Reclamation - By-Product 4

RECLAMATION - BY-PRODUCT 3

Description of Activity:

Still bottoms from the distillation of benzyl chloride in chemicals manufacturing (a by-product listed under EPA Hazardous Waste No. K014) are reclaimed for their chloride content. (The reclamation operation is not carried out in an incinerator.) The chlorides are used as an ingredient to produce hydrochloric acid, which is used as a feedstock in chemical manufacturing.

What is the status of the still bottoms prior to being reclaimed?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

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10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the process exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Because materials with value -- the chlorides -- are reclaimed from the still bottoms, the process is classified as reclamation. Characteristic by-products that are reclaimed are not defined as solid wastes and thus are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated, or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the still bottoms are not a solid waste and thus are not subject to RCRA Subtitle C regulation.

<u>See Also</u>: Reclamation - By-Product 3

RECLAMATION - BY-PRODUCT 4

Description of Activity:

Still bottoms from chemicals manufacturing (a by-product exhibiting the characteristic of corrosivity) are reclaimed through a chemical treatment process for their chloride content. (The reclamation operation is not carried out in an incinerator.) The chlorides are used as an ingredient to produce hydrochloric acid, which is used as a feedstock in chemical manufacturing.

What is the status of the still bottoms prior to being reclaimed?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the chlorinated hydrocarbon waste is subject to requirements under 40 CFR 262. Transporters of the chlorinated hydrocarbon waste are subject to requirements under 40 CFR 263. Generators recycling the chlorinated hydrocarbon waste on-site, off-site recyclers and other parties handling the chlorinated hydrocarbon waste prior to smelting may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the chlorinated hydrocarbon waste for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the chlorinated hydrocarbon waste must be managed as hazardous wastes.

Discussion:

Because materials with value -- the lead -- are recovered from the waste, the process is classified as reclamation. Listed by-products that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

RECLAMATION - BY-PRODUCT 5

Description of Activity:

Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production (by-products listed under EPA Hazardous Waste No. K073) are smelted to recover lead.

What is the status of the chlorinated hydrocarbon waste?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[X] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the sludges is subject to requirements under 40 CFR 262. Transporters of the sludges are subject to requirements under 40 CFR 263. Generators recycling the sludges on-site, off-site recyclers and other parties handling the sludges prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the sludges for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. The reclamation process itself is not regulated. Any residues derived from recycling the sludges must be managed as hazardous wastes.

Discussion:

Because material with value -- mercury -- is recovered from the waste, the process is classified as reclamation. Listed by-products that are reclaimed are solid wastes and are thus subject to RCRA Subtitle C regulation.

RECLAMATION - BY-PRODUCT 6

Description of Activity:

Chloralkali sludges (by-products listed under EPA Hazardous Waste No. K071) are dewatered, roasted, condensed and demisted to recover mercury.

What is the status of the sludges?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the polypropylene residues is subject to requirements under 40 CFR 262. Transporters of the polypropylene are subject to requirements under 40 CFR 263. Generators recycling the polypropylene on-site, off-site recyclers and other parties handling the polypropylene prior to recycling may be subject to storage facility requirements under 40 CFR 264 and 265 Subparts A through L. Generators who store the polypropylene for no more than 90 days in tanks or containers prior to recycling are subject only to the requirements for accumulation under 40 CFR 262.34. Residues from recycling the polypropylene must be managed as hazardous wastes if they themselves exhibit any hazardous waste characteristics.

Discussion:

The processor who separates the residual solvents and the polymeric residues from the polypropylene residues is reclaiming this material. When reclaimed, a characteristic by-product ordinarily is not defined as a solid waste. However, because a product of the reclamation process is incorporated into a product that is placed on the ground, this activity starts a chain that results in use constituting disposal. Hence the polypropylene is a solid waste, and is subject to RCRA Subtitle C regulation.

See Also: Other - Non-Secondary Material 13
Other - Non-Hazardous Secondary Material 6
Other - Non-Hazardous Secondary Material 7

RECLAMATION - BY-PRODUCT 7

Description of Activity:

Steam stripper condensate from the petroleum refining process, contaminated with phenol (a by-product exhibiting the characteristic of ignitability) goes through a solvent extraction process to recover the phenol, which is reused in petroleum refining to improve the viscosity of lube oils.

What is the status of the steam stripper condensate prior to solvent extraction?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Because solvent extraction recovers materials of value -- phenol -- from the condensate, the process is defined as reclamation. Characteristic by-products that are reclaimed are not defined as solid wastes and thus are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated, or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the steam stripper condensate is not a solid waste and thus is not subject to RCRA Subtitle C regulation.

RECLAMATION - BY-PRODUCT 8

Description of Activity:

A waste stream containing hexachlorobenzene and hexachlorobutadiene from the manufacture of chloromethanes (by-products exhibiting the characteristic of ignitability) is distilled. The distillate, which is also ignitable, is chlorinated in a nickel tube to produce carbon tetrachloride. The carbon tetrachloride is then marketed.

What is the status of the waste stream containing hexachlorobenzene and hexachlorobutadiene?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Distillation of the waste stream containing hexachlorobenzene and hexachlorobutadiene constitutes a reclamation step. Characteristic by-products that are reclaimed are not defined as solid wastes and are not subject to Subtitle C regulation unless they are speculatively accumulated, or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the initial waste stream is not a solid waste and thus is not subject to RCRA Subtitle C regulation.

See also: Other - Non-Secondary Material 10

RECLAMATION - BY-PRODUCT 9

Description of Activity:

Polyurethane residues (a by-product exhibiting the characteristic of ignitability) are distilled to recover methylene chloride for use in industrial applications.

What is the status of the polyurethane residues?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because material with value -- the methylene chloride -- is recovered, the distillation is classified as a reclamation step. Characteristic by-products that are reclaimed are not defined as solid wastes and are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply to this case, the polyurethane residues are a solid waste and thus are not subject to RCRA Subtitle C regulation.

RECLAMATION - BY-PRODUCT 10

Description of Activity:

Solder drosses that are generated in soldering integrated circuits to printed circuit boards (a by-product exhibiting the characteristic of EP-toxicity) are sold to recyclers who recover lead in secondary smelters. The lead is sold to battery manufacturers for use in the production of lead-acid batteries.

What is the status of the solder drosses?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If yes, go on to question (2).
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If yes, go on to question (3).
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If yes, go on to question (6).
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no

If yes, go on to question (6a).
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If yes, go on to question (7).
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If yes, go on to question (7).
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes [X] no

If yes, go on to question (7a).
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [X] no

If yes, go on to question (8a).
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Because material with value -- lead -- is recovered from the solder drosses, the process is classified as reclamation. Characteristic by-products that are reclaimed are not solid wastes and are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the solder drosses are not a solid waste and thus are not subject to RCRA Subtitle C regulation.

RECLAMATION - BY-PRODUCT 11

Description of Activity:

Acid digested coal ash (a by-product exhibiting the characteristic of EP-toxicity) goes through an adsorptive bubble technique, adding the sulfite ion and adjusting the solution pH, to recover metal cations of copper, cobalt, nickel, manganese, iron, lead, zinc, vanadium, aluminum, and chromium.

What is the status of the acid digested coal ash?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[X] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because materials with value -- the metal cations -- are recovered as end products from the acid digested coal ash, the activity is classified as reclamation. Characteristic by-products that are reclaimed are not solid wastes and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, or the product of reclamation is used in a manner constituting disposal or burned as a fuel. Since these exceptions do not apply in this case, the acid digested coal ash is not a solid waste and thus is not subject to RCRA Subtitle C regulation.

RECLAMATION - SCRAP METAL 1

Description of Activity:

Non-magnetic automobile shredder rejects (scrap metals exhibiting the charactertistic of EP-toxicity) go through a water elutriator system to recover nonferrous mixed metals (which also exhibit EP-toxicity), which are sent to a secondary smelter for reclamation.

What is the status of the automobile shredder rejects?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[X] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[X] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because materials with value -- the nonferrous mixed metals -- are recovered from the shredder rejects, the process is classified as reclamation. Characteristic scrap metals that are reclaimed are defined as solid wastes but are currently exempt from RCRA Subtitle C regulation (see 40 CFR 261.6(a)(3)(iv)).

See Also: Reclamation - Scrap Metal 3

RECLAMATION - SCRAP METAL 2

Description of Activity:

Scrap metal that exhibits the characteristic of EP-toxicity is smelted to recover lead. The lead is sold and used to manufacture batteries.

What is the status of the scrap metal?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[X] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[X] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Because materials with value -- lead -- are recovered from the scrap metal, the process is classified as reclamation. Hazardous scrap metals that are reclaimed are solid wastes. However, EPA has exempted scrap metals from RCRA Subtitle C regulation.

RECLAMATION - SCRAP METAL 3

Description of Activity:

Non-magnetic automobile shredder rejects (scrap metals exhibiting the charactertistic of EP-toxicity) go through a water elutriator system to recover nonferrous mixed metals (which also exhibit EP-toxicity), which are sent to a secondary smelter for reclamation.

What is the status of the recovered mixed metals?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[X] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[X] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[X] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The mixed metals are products of the reclamation of a characteristic scrap metal. However, they are still scrap metals exhibiting the characteristic of EP-toxicity, and must undergo further reclamation at the secondary smelter. Characteristic scrap metals that are reclaimed are defined as solid wastes but are currently exempt from RCRA Subtitle C regulation.

USE/REUSE - SPENT MATERIAL 1

Description of Activity:

Spent pink/red water from the production of TNT (a sulfite-containing spent material listed under EPA Hazardous Waste No. K047) is used by the paper industry as a pulping liquor in a chemical-based pulping process.

What is the status of the pink/red water?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[X] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Because the pink/red water is used as a substitute for a commercial product in a manufacturing process, the activity is classified as use/reuse. Materials that are used/reused in this manner are not solid wastes and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in manner constituting disposal, or burned as a fuel.

USE/REUSE - SPENT MATERIAL 2

Description of Activity:

Spent pickle liquor (a spent material listed under EPA Hazardous Waste No. K062) is used directly as a wastewater conditioner.

What is the status of the spent pickle liquor?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[X] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because dumping secondary materials into water to serve as fill or structural support is similar to land disposal, this activity normally is use constituting disposal; thus, materials added to water ordinarily are considered solid wastes. The use of secondary materials as wastewater conditioners, however, is not use constituting disposal. Using secondary materials as wastewater conditioners is not similar to land disposal because the secondary material is chemically combined as part of the conditioning process and is subsumed as an ingredient in the conditioned water. In this case, the pickle liquor is directly reused without any reclamation as a substitute for a commercial product. Materials that are used/reused are not considered solid wastes and thus are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SPENT MATERIAL 3

Description of Activity:

A spent electrolyte from the primary copper production process (a spent material that exhibits the characteristic of EP-toxicity) is returned without being reclaimed to the copper production process as a feedstock.

What is the status of the spent electrolyte?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[X] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because the spent electrolyte is directly reintroduced without intermediate reclamation as a substitute for raw material feedstock in the primary production process from which it was generated, the activity is classified as use/reuse in a closed loop process. Materials that are used/reused are not solid wastes and are not subject to Subtitle C regulations, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SPENT MATERIAL 4

Description of Activity:

A spent Friedel Krafts catalyst solution from a chemical manufacturing plant (a spent material exhibiting the characteristic of corrosivity) is used as an ingredient in aluminum production processes.

What is the status of the spent catalyst?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[X] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The catalyst is directly used without intermediate reclamation an an ingredient in making aluminum. Materials that are used/reused are not solid wastes, and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SPENT MATERIAL 5

Description of Activity:

A spent olefin polymerization catalyst consisting of phosphoric acid impregnated Kieselguhr clay from petroleum fractionalization in the chemicals industry (a spent material exhibiting the characteristic of corrosivity) is supplied to a wet process phosphoric acid producer for use as a feedstock in the production of food-grade phosphoric acid.

What is the status of the spent catalyst?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[X] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

The catalyst is directly used without intermediate reclamation as an ingredient in making food-grade phosphoric acid. Materials that are used/reused are not solid wastes and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SPENT MATERIAL 6

Description of Activity:

A spent hydrofluoric acid etching solution from metallurgical industries (a spent material exhibiting the characteristic of corrosivity) is reacted with potassium hydroxide to produce an impure potassium fluoride solution, which goes through filtration and evaporation to purify the potassium fluoride, which is sold for use as a preservative.

What is the status of the etching solution?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[X] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The etching solution is directly reused without intermediate reclamation as an ingredient in making potassium fluoride. The activity is not classified as reclamation because potassium fluoride does not exist in the original substance and thus is not recovered from the substance. Materials that are used/reused are not solid wastes, and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SPENT MATERIAL 7

Description of Activity:

Spent sulfuric acid (a spent material exhibiting the characteristic of corrosivity) is used as a raw material in the manufacture of iron oxide products.

What is the status of the spent sulfuric acid?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If yes, go on to question (2).
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If yes, go on to question (3).
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If yes, go on to question (6).
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no

If yes, go on to question (6a).
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If yes, go on to question (7).
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If yes, go on to question (7).
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes [X] no

If yes, go on to question (7a).
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [X] no

If yes, go on to question (8a).
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[X] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The spent sulfuric acid is directly used as an ingredient in a manufacturing process. Hence, the activity qualifies as use/reuse. Materials that are used/reused are not solid wastes and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SPENT MATERIAL 8

Description of Activity:

Waste hydrochloric acid from the production of chlorinated organic solvents such as methylene chloride (a spent material exhibiting the characteristic of corrosivity), is used as a pickle liquor in steel pickling.

What is the status of the waste hydrochloric acid?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[X] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because the spent hydrochloric acid is used as a substitute for a commercial product in steel pickling, the activity is classified as use/reuse. Materials that are used/reused are not solid wastes and are not subject to RCRA Subtitle C regulation unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SLUDGE 1

Description of Activity:

A metal finishing sludge containing chromium hydroxide (a sludge listed under EPA Hazardous Waste No. F006) is treated with sulfuric acid, yielding chromium sulfate which is used in the leather tanning industry.

What is the status of the sludge?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[X] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The sludge is directly used without intermediate reclamation as an ingredient in making chromium sulfate. The activity is not classified as reclamation because chromium sulfate does not exist in the original substance and thus is not recovered from the substance. Materials that are used/reused are not solid wastes, and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SLUDGE 2

Description of Activity:

Emission control dust from a primary zinc smelting furnace (a sludge exhibiting the characteristic of EP-toxicity) is returned to the zinc production process without being reclaimed; the emission control dust is returned to either the smelting furnace in the pyrolitic plant or the dross furnace.

What is the status of the emission control dust?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[X] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because the emission control dust is reintroduced, without prior reclamation, as a substitute for raw material feedstock in the primary production process from which it was generated, the activity is defined as a closed-loop process. Materials that are recycled in a closed-loop process are not solid wastes and thus are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, burned as a fuel, or used in a manner constituting disposal.

USE/REUSE - SLUDGE 3

Description of Activity:

Hydrofluorosilicic acid, an air emission control dust (a sludge that exhibits the characteristic of EP-toxicity), is used as a fluoridating agent in drinking water.

What is the status of the acid?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If yes, go on to question (2).
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If yes, go on to question (3).
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[X] yes [ ] no

If yes, go on to question (6).
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[X] yes [ ] no

If yes, go on to question (6a).
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[X] yes [ ] no

If yes, go on to question (7).
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If yes, go on to question (7).
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes [X] no

If yes, go on to question (7a).
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [X] no

If yes, go on to question (8a).
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[X] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because dumping secondary materials into water to serve as fill or structural support is similar to land disposal, this activity normally is use constituting disposal; thus, materials added to water ordinarily are considered solid wastes. The use of secondary materials as fluoridating agents, however, is not use constituting disposal. Using secondary materials as fluoridating agents is not similar to land disposal because the secondary material is chemically combined as part of the fluoridating process and is subsumed as an ingredient in the fluoridated water. In this case, the hydrofluorosilicic acid is directly reused without any reclamation as a substitute for a commercial product. Materials that are used/reused are not considered solid wastes and thus are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SLUDGE 4

Description of Activity:

Emission control dust from the primary copper production process (a sludge that exhibits the characteristic of EP-toxicity) is returned without being reclaimed to the copper production process in the roaster, converter, or tank house as a feedstock.

What is the status of the emission control dust?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[X] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because the emission control dust is directly reintroduced without intermediate reclamation as a substitute for raw material feedstock in the primary production process from which it was generated, the activity is classified as a closed loop process. Materials that are recycled in a closed-loop process are not solid wastes and thus are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SLUDGE 5

Description of Activity:

Bag filter and ventilation materials from the manufacture of pentachlorophenol (sludges listed under EPA Hazardous Waste No. F021) are reused as a substitute for virgin feedstock in the pentachlorophenol manufacturing process.

What is the status of the bag filter and ventilation materials?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[X] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Materials that are listed under EPA Hazardous Waste No. F021 are usually considered inherently waste-like, unless they are directly used/reused in a production process at the site of production, as they are here (see 40 CFR 261.2(d)(1)). In this case, the process is use/reuse and the bag filter and ventilation materials are not solid wastes and are not subject to RCRA Subtitle C regulation.

USE/REUSE - SLUDGE 6

Description of Activity:

Emission control dust from steel production (a sludge exhibiting the characteristic of EP toxicity) is returned to the sintering plant for processing before being charged to the blast furnace.

What is the status of the emission control dust?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[X] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Processing steps that do not themselves regenerate or recover material values and are not necessary to material recovery are not reclamation. Therefore, sintering operations, which thermally agglomerate iron-bearing materials before charging to a blast furnace, are not reclamation. In this case, return of emission control dusts to the blast furnace as a substitute for raw material feedstock meets the specifications of closed-loop recycling. Materials that are recycled in a closed-loop process are not solid wastes and are not subject to Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SLUDGE 7

Description of Activity:

Blast furnace dusts (a sludge exhibiting the characteristic of EP-toxicity) are returned to the blast furnace (without intermediate reclamation) for reuse.

What is the status of the blast furnace dusts?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[X] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because the blast furnace dusts are reintroduced, without prior reclamation, as a substitute for raw material feedstock in the primary production process in which they were generated, the activity is use/reuse in a closed loop process. Materials that are used/reused are not solid wastes and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - SLUDGE 8

Description of Activity:

Baghouse dust from the production of steel (a sludge exhibiting the characteristic of EP-toxicity) is briquetted and then reintroduced to the blast furnace as a feedstock in the steel production process.

What is the status of the baghouse dust?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[X] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because it does not change the physical form of the baghouse dust, but merely collects the dust for easier reuse, briquetting is not a reclamation step. Thus, the baghouse dust is being reintroduced, without prior reclamation, as a substitute for a raw material feedstock in the primary production process in which it was generated. The activity is defined as use/reuse in a closed loop process. Materials that are used/reused are not solid wastes and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - BY-PRODUCT 1

Description of Activity:

Lime generated in the production of acetylene gas (a by-product exhibiting the characteristic of corrosivity) is used as a wastewater conditioner.

What is the status of the lime?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[X] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Because dumping secondary materials into water to serve as fill or structural support is similar to land disposal, this activity normally is use constituting disposal; thus materials added to water ordinarily are considered solid wastes. The use of secondary materials as wastewater conditioners, however, is not use constituting disposal. Using secondary materials as wastewater conditioners is not similar to land disposal because the secondary material is chemically combined as part of the conditioning process and is subsumed as an ingredient in the conditioned water. In this case, the lime is directly reused without any intermediate reclamation as a substitute for a commercial product. Materials that are used/reused are not considered solid wastes and thus are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

USE/REUSE - BY-PRODUCT 2

Description of Activity:

Distillation bottoms from the manufacture of carbon tetrachloride (a by-product listed under EPA Hazardous Waste No. K016) are used as a feedstock in the production of tetrachloroethlyene.

What is the status of the distillation bottoms?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [X] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [X] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [X] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [X] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [X] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [X] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [X] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[X] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the process exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

The distillation bottoms are directly used as an ingredient in a manufacturing process. Hence, the activity qualifies as use/reuse. Materials that are used/reused are not solid wastes and are not subject to RCRA Subtitle C regulation, unless they are speculatively accumulated, used in a manner constituting disposal, or burned as a fuel.

OTHER - SPENT MATERIAL 1

Description of Activity:

Spent oleum from the production of motor oil (a spent material that contains mostly sulfuric acid, and exhibits the characteristic of corrosivity) is sent off-site to produce virgin sulfuric acid that is reused in motor oil production.

What is the status of the spent oleum?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [X] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

EPA has specifically excluded spent sulfuric acid returned to produce virgin sulfuric acid from the definition of solid waste. Thus the spent acid is not subject to RCRA Subtitle C regulation, unless it is speculatively accumulated (see 40 CFR 261.4(a)(7)).

OTHER - SPENT MATERIAL 2

Description of Activity:

Spent pulping liquors (spent materials exhibiting the characteristic of corrosivity) from pulpmaking operations are recycled in a pulping liquor recovery furnace (on-site or off-site) and reused in the pulping process.

What is the status of the spent pulping liquors?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [X] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

EPA has excluded spent pulping liquors that are recycled in a pulping liquor recovery furnace and reused in the pulping process from the definition of solid waste, unless they are speculatively accumulated (see 40 CFR 261.4(a)(6)).

OTHER - SPENT MATERIAL 3

Description of Activity:

Waste sulfuric acid (a spent material exhibiting the characteristic of corrosivity) is decomposed into sulfur dioxide, a gas that is piped to a sulfuric acid manufacturing operation for use as a raw material in the production of virgin sulfuric acid.

What is the status of the waste sulfuric acid?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [X] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [X] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

The process of decomposing sulfuric acid to recover sulfur dioxide is considered reclamation of a characteristic spent material. Normally, characteristic spent materials that are reclaimed are solid wastes. However, EPA has issued a special exclusion stating that spent sulfuric acid used to produce virgin sulfuric acid is not a solid waste, and is not subject to RCRA Subtitle C regulation, unless it is speculatively accumulated (see 40 CFR 261.4(a)(7)).

OTHER - SPENT MATERIAL 4

Description of Activity:

Spent sulfuric acid (a spent material exhibiting the characteristic of corrosivity) is used with a commercial conditioning agent as a wastewater conditioner.

What is the status of the spent sulfuric acid?

Questions:

1. Is the material that is recycled a secondary material?

[X] yes [ ] no

If yes, go on to question (2).
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[X] yes [ ] no

If yes, go on to question (3).
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [X] no

If yes, the material is not a solid waste.
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [X] no

If yes, the material is a solid waste. See applicable regulations, below.

If no, go on to question (5).

5. Does the activity serve a beneficial use?

[ ] yes [X] no

If yes, go on to question (6).
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[ ] yes [ ] no

If yes, go on to question (6a).
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[ ] yes [ ] no

If yes, go on to question (7).
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If yes, go on to question (7).
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes [ ] no

If yes, go on to question (7a).
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [ ] no

If yes, go on to question (8a).
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [X] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

2. The generator of the spent sulfuric acid is subject to requirements under 40 CFR 262. Transporters of the acid are subject to requirements under 40 CFR 263. Generators and other parties handling the acid may be subject to storage facility requirements under 40 CFR 264 and 265 subparts A through L. Generators who store the acid in tanks or containers for no more than 90 days are subject to requirements for accumulation under 40 CFR 262.34. Persons disposing of the waste may be subject to requirements under 40 CFR 264 and 265.

Discussion:

This is an example of sham recycling, where the spent sulfuric acid is only marginally effective for the claimed use. The fact that a commercial conditioning agent must be used along with the sulfuric acid is an indication that the claimed recycling is a sham. Thus, the spent sulfuric acid is a solid waste and is subject to RCRA Subtitle C regulation.

OTHER - NON-SECONDARY MATERIAL 1

Description of Activity:

Unused propulsion fuel from a torpedo that has been fired and retrieved must be reclaimed before reuse for its original purpose because it has been contaminated with salt water.

What is the status of the unused propulsion fuel?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The fuel is not a secondary material, but unreacted raw material (an unburned fuel). Because it is not a secondary material, it cannot be a solid waste, and is not subject to RCRA Subtitle C regulation.

OTHER - NON-SECONDARY MATERIAL 2

Description of Activity:

Column bottoms and heavy ends containing hexachlorobutadiene from the production of perchloroethlyene (a by-product that is listed under EPA Hazardous Waste No. K030) are stripped of volatile materials (which are recycled back into the perchloroethylene process). The residue is further distilled to recover marketable hexachlorobutadiene.

What is the status of the recovered hexachlorobutadiene?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The hexachlorobutadiene is the product of the reclamation of a listed by-product. Such products are not themselves solid wastes unless they (a) are burned as a fuel, (b) are placed on the land in a manner constituting disposal, or (c) require further processing to complete the reclamation process. In this case, the hexachlorobutadiene is reused without further reclamation. Thus, the hexachlorobutadiene is not a solid waste and is not subject to RCRA Subtitle C regulation.

See Also: Reclamation - By-Product 2
Other - Non-Secondary Material 5

OTHER - NON-SECONDARY MATERIAL 3

Description of Activity:

Toluene originally used in press and roller cleanup in printing and coating operations is segregated by ink type and reused as a thinner at the same facility.

What is the status of the contaminated toluene?

Questions:

1. Is the material that is recycled a secondary material?

[ ] yes [X] no

If yes, go on to question (2).
If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

[ ] yes [ ] no

If yes, go on to question (3).
If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

[ ] yes [ ] no

If yes, the material is a solid waste. See applicable regulations, below.
If no, go on to question (5).

5. Does the activity serve a beneficial use?

[ ] yes [ ] no

If yes, go on to question (6).
If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

[ ] yes [ ] no

If yes, go on to question (6a).
If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

[ ] yes [ ] no

If yes, go on to question (7).
If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

[ ] yes [ ] no

If yes, go on to question (7).
If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

[ ] yes [ ] no

If yes, go on to question (7a).
If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

[ ] yes [ ] no

If yes, go on to question (8a).
If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The activity of segregating by ink type does not constitute reclamation, because the toluene is not regenerated. Because the material is used without being reclaimed, it is not a spent material, and thus not a secondary material. Materials that are not spent are not solid wastes and are not subject to RCRA Subtitle C regulation.

OTHER - NON-SECONDARY MATERIAL 4

Description of Activity:

Solvents (exhibiting the characteristic of ignitability) originally used to clean circuit boards but no longer pure enough for that purpose, are reused as is as metal degreasers.

What is the status of the contaminated solvents?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

Solvents commonly are produced and used as degreasers. As long as the solvents (in this case) are used as degreasers, without being reclaimed, they are serving a purpose for which they originally were manufactured; since they are not "spent", they are not secondary materials. Materials that are not secondary materials are not solid wastes and thus are not subject to RCRA Subtitle C regulation.

<u>See Also</u>: Other - Non-Secondary Material 6

OTHER - NON-SECONDARY MATERIAL 5

Description of Activity:

Column bottoms and heavy ends containing hexachlorobutadiene from the production of perchloroethlyene (a by-product that is listed under EPA Hazardous Waste No. K030) are stripped of volatile materials (which are recycled back into the perchloroethylene process). The residue is distilled to recover marketable hexachlorobutadiene.

What is the status of the volatile materials?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

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8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The volatile materials are products of reclamation of a listed by-product. Such products are not themselves solid wastes unless they (a) are burned as a fuel, (b) are placed on the land in a manner constituting disposal, or (c) require further processing to complete the reclamation process. In this case, the volatile materials are reused in the perchloroethylene process without further reclamation. Thus, they are not solid wastes and are not subject to RCRA Subtitle C regulation.

See Also: Reclamation - By-Product 2
Other - Non-Secondary Material 2

OTHER - NON-SECONDARY MATERIAL 6

Description of Activity:

Spent acid from a brass mill (a spent material exhibiting the characteristic of corrosivity) is reclaimed for its copper content. The copper is then reused in the mill as an ingredient in the production of brass. The regenerated acid is returned to its original use.

What is the status of the copper?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The copper is a product of the reclamation of a characteristic spent material. Such products are not solid wastes themselves unless they exhibit a hazardous waste characteristic and (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) must be further reclaimed before they can be reused. In this case, the copper is reused in the production of brass. Therefore it is not a solid waste and is not subject to RCRA Subtitle C regulation.

See Also: Reclamation - Spent Material 11

OTHER - NON-SECONDARY MATERIAL 7

Description of Activity:

An acid etching solution (a spent material exhibiting the characteristic of corrosivity) is reclaimed for its zinc content. The zinc, which does not exhibit any hazardous waste characteristics, is then used as an ingredient in paint manufacture.

What is the status of the zinc?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned—as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The zinc is a product of the reclamation of a characteristic spent material. Such products are not solid wastes themselves unless they exhibit a hazardous waste characteristic and (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) must be further reclaimed before they can be reused. In this case, the zinc does not exhibit a hazardous waste characteristic and is directly used as an ingredient in paint. Therefore, it is not a solid waste and is not subject to RCRA Subtitle C regulation.

See Also:
Use Constituting Disposal - Spent Material 1
Reclamation - Spent Material 13
Other - Non-Hazardous Secondary Material 3
Other - Non-Hazardous Secondary Material 4

OTHER - NON-SECONDARY MATERIAL 8

Description of Activity:

A spent cyanide plating bath solution from electroplating operations (a spent material listed under EPA Hazardous Waste No. F007) goes through an evaporation process to separate its liquid and solid constituents. The liquids are purified in activated carbon beds, yielding water, which is recycled to the rinsing operations. The solids are directly reused in the plating operation.

What is the status of the solids that are recycled to the plating operation?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a *closed-loop process*)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

The solids are a product of the reclamation of a listed hazardous waste. Such products are not solid wastes themselves unless they (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) must be further reclaimed before they can be reused. In this case, the solids are reused in the plating operations. Therefore, they are not a solid waste and are not subject to Subtitle C regulation.

<u>See Also</u>: Reclamation - Spent Material 19
Reclamation - Spent Material 20

OTHER - NON-SECONDARY MATERIAL 9

Description of Activity:

Spent chromic acid from metal finishing plating baths (a spent material listed under EPA Hazardous Waste No. F007) is neutralized and goes through an ion exchange process that removes the chromium. The acid is regenerated and returned to the metal finishing plating bath. The ion exchange resin (a listed sludge -- the residue derived from the treatment of a listed waste) is treated with sodium hydroxide solution to remove any impurities. The resin is then returned to the ion exchange column.

What is the status of the regenerated acid that is returned to the metal finishing plating bath?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The acid is the product of the reclamation of a listed spent material. Such products are not themselves solid wastes unless they (a) are burned as a fuel, (b) are placed on the land in a manner constituting disposal, or (c) require further processing to complete the reclamation process. In this case, the acid is reused in metal plating without further reclamation. Thus, it is not a solid waste and is not subject to RCRA Subtitle C regulation.

See Also: Reclamation - Spent Material 4
Reclamation - Sludge 3
Other - Non-Secondary Material 12

OTHER - NON-SECONDARY MATERIAL 10

Description of Activity:

A waste stream containing hexachlorobenzene and hexachlorobutadiene from the manufacture of chloromethanes (by-products exhibiting the characteristic of ignitability) is distilled. The distillate, which is also ignitable, is chlorinated in a nickel tube to produce carbon tetrachloride. The carbon tetrachloride is then marketed.

What is the status of the distillate?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

The distillate is a product of the reclamation of a characteristic by-product. Such products are not solid wastes themselves unless they exhibit a hazardous waste characteristic and (a) are placed on the ground in a manner constituting disposal or (b) are burned as a fuel. In this case, the distillate is directly used as an ingredient in the production of carbon tetrachloride. Therefore, it is not a solid waste and is not subject to RCRA Subtitle C regulation.

<u>See Also</u>: Reclamation - By-Product 8

OTHER - NON-SECONDARY MATERIAL 11

Description of Activity:

Used methyl ethyl ketone from coated fabric production (a material listed under EPA Hazardous Waste No. F005 when spent) is used to wash equipment in the synthetic rubber industry.

What is the status of the used methyl ethyl ketone?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

Solvents such as methyl ethyl ketone are commonly produced and used as cleaning agents. As long as the methyl ethyl ketone (in this case) is used as a cleaner/degreaser, it is serving a purpose for which it originally was manufactured; since it is not "spent", it is not a secondary material. Materials that are not secondary materials are not solid wastes and are not subject to RCRA Subtitle C regulation.

OTHER - NON-SECONDARY MATERIAL 12

Description of Activity:

Spent chromic acid from metal finishing plating baths (a spent material listed under EPA Hazardous Waste No. F007) is neutralized and goes through an ion exchange process that removes the chromium. The acid is regenerated and returned to the metal finishing plating bath. The ion exchange resin (a listed sludge -- the residue derived from a treatment of a listed waste) is regenerated with sodium hydroxide solution and then neutralized and treated, and returned to the ion exchange column.

What is the status of the resin that is returned to the ion exchange column?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The regenerated resin is the product of the reclamation of a listed sludge. Such products are not themselves solid wastes unless they (a) are burned as a fuel, (b) are placed on the land in a manner constituting disposal, or (c) require further processing to complete the reclamation process. In this case, the resin is reused in the ion exchange column without further reclamation. Thus, it is not a solid waste and is not subject to RCRA Subtitle C regulation.

See Also: Reclamation - Spent Material 4
Reclamation - Sludge 3
Other Non-Secondary Material 9

OTHER - NON-SECONDARY MATERIAL 13

Description of Activity:

Amorphous polypropylene residues (by-products exhibiting the characteristic of ignitability) go through a processor that extracts residual solvents for reuse as degreasers. The polymeric residues, which do not exhibit any hazardous characteristics, are blended with asphaltic materials to make (a more crack-resistant) asphalt for sale. The asphalt also does not exhibit any hazardous waste characteristics.

What is the status of the extracted residual solvents?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

The solvents are a product of the reclamation of a characteristic by-product that is a solid waste because another product of reclamation (the polymeric residues) is used in a manner constituting disposal. The solvents, however, are not solid wastes themselves unless they exhibit a hazardous waste characteristic and (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) require further processing to complete the reclamation process. In this case, the solvents are reused as degreasers, so they are not solid wastes and are not subject to RCRA Subtitle C regulation.

<u>See Also</u>: Other - Non-Hazardous Secondary Material 6
Other - Non-Hazardous Secondary Material 7
Use Constituting Disposal - By-Product 4

OTHER - NON-SECONDARY MATERIAL 14

Description of Activity:

Plating bath rinsewaters from copper and zinc electroplating operations (spent materials exhibiting the characteristic of EP-toxicity) are concentrated in a reverse osmosis system and an evaporator. The distillate, which does not exhibit any hazardous waste characteristics, is recycled as process water. The concentrate, which exhibits the characteristic of EP-toxicity, is recycled to the plating baths.

What is the status of the concentrate?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The concentrate is a product of the reclamation of a characteristic spent material. Such products are not solid wastes themselves unless they exhibit a hazardous waste characteristic and (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) must be further reclaimed before they can be reused. In this case, the concentrate is directly reused in the plating baths. Thus, it is not a solid waste and is not subject to RCRA Subtitle C regulation.

See Also: Reclamation - Spent Material 23

OTHER - NON-SECONDARY MATERIAL 15

Description of Activity:

Spent methanol that was used as a solvent in pharmaceutical manufacturing operations (a spent material listed under EPA Hazardous Waste No. F003) goes through a reclamation process on site that regenerates the methanol to better than 99.5 percent purity. When sent off-site for reuse in a variety of manufacturing processes, it must undergo further reclamation.

What is the status of the 99.5 percent pure methanol?

Questions:

1. Is the material that is recycled a secondary material?

   [ ] yes [X] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [ ] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

The 99.5 percent pure methanol is a product of the reclamation of a characteristic spent material. Such products are not solid wastes themselves unless they exhibit a hazardous waste characteristic and (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) must be further reclaimed before they can be reused. In this case, the methanol undergoes further reclamation off-site. However, because it is better than 99.5 percent pure, EPA has ruled that in this case the reclamation is substantially complete and the material is more product-like than waste-like. (A similar situation would be metals that must undergo further refining before they are used.) The methanol is a commercial chemical product, not a solid waste, and is not subject to RCRA Subtitle C regulation.

<u>See Also</u>: Reclamation - Spent Material 24

OTHER - NON-HAZARDOUS SECONDARY MATERIAL 1

Description of Activity:

Spent activated carbon (a non-listed sludge that does not exhibit a hazardous waste characteristic) from the treatment of a characteristic waste is regenerated.

What is the status of the spent carbon?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [X] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

In this case, the spent activated carbon does not exhibit any hazardous waste characteristics. Secondary materials that are recycled but are not hazardous are not solid wastes and are not subject to RCRA Subtitle C regulation.

See Also: Reclamation - Sludge 1

OTHER - NON-HAZARDOUS SECONDARY MATERIAL 2

Description of Activity:

Toxic metal-containing sludges from the chemical industry (sludges exhibiting the characteristic of EP-toxicity) go through a reclamation process that results in a soil-like solid that can be used for landfill cover material, levees, berms, or fertilizer. This resulting material does not exhibit any hazardous waste characteristics.

What is the status of the non-hazardous resulting material?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [X] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The products of reclamation of characteristic sludges are not themselves solid wastes unless they exhibit a hazardous waste characteristic and are (a) burned for energy recovery or (b) used in a manner constituting disposal. This product is placed on the land, but because the product is not hazardous it is not a solid waste and is not subject to Subtitle C regulation.

See Also: Use Constituting Disposal - Sludge 1

OTHER - NON-HAZARDOUS SECONDARY MATERIAL 3

Description of Activity:

An acid etching solution (a spent material exhibiting the characteristic of corrosivity) is reclaimed for its zinc content. The zinc (which does not exhibit any hazardous waste characteristics) is then used in a fertilizer that does not exhibit any hazardous waste characteristics. The recycler uses the fertilizer on his own land but does not market it to the general public.

What is the status of the fertilizer?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [X] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

The fertilizer is derived from a characteristic waste but is not itself hazardous because it does not exhibit any hazardous waste characteristics. Recycled secondary materials that are not hazardous are not solid wastes and are not subject to RCRA Subtitle C regulation.

<u>See Also</u>: Use Constituting Disposal - Spent Material 1
Reclamation - Spent Material 13
Other - Non-Secondary Material 7
Other - Non-Hazardous Secondary Material 4

OTHER - NON-HAZARDOUS SECONDARY MATERIAL 4

Description of Activity:

An acid etching solution (a spent material exhibiting the characteristic of corrosivity) is reclaimed for its zinc content. The zinc (which does not exhibit any hazardous waste characteristics) is then used in a fertilizer that also does not exhibit any hazardous waste characteristics. The recycler uses the fertilizer on his own land but does not market it to the general public.

What is the status of the zinc?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [X] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, wich are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The zinc is a product of the reclamation of a characteristic spent material. Such products are not solid wastes themselves unless they exhibit a hazardous characteristic and (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) must be further reclaimed before they can be reused. In this case, because the zinc does not exhibit any hazardous characteristics, it is not a solid waste and is not subject to RCRA Subtitle C regulation (even though it is being used as an ingredient for a product that is placed on the land for beneficial use).

See Also:
Use Constituting Disposal - Spent Materials 1
Reclamation - Spent Material 13
Other - Non-Secondary Material 7
Other - Non-Hazardous Secondary Material 3

OTHER - NON-HAZARDOUS SECONDARY MATERIAL 5

Description of Activity:

Filter press sludge from the manufacture of organo-tin products (a non-listed sludge that does not exhibit any hazardous waste characteristics) is reclaimed for its tin content by secondary tin smelters.

What is the status of the sludge?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [X] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The filter press sludge is not listed and does not exhibit any hazardous waste characteristics; therefore it is not hazardous. Recycled secondary materials that are not hazardous are not solid wastes, and are not subject to RCRA Subtitle C regulation.

OTHER - NON-HAZARDOUS SECONDARY MATERIAL 6

Description of Activity:

Amorphous polypropylene residues (by-products exhibiting the characteristic of ignitability) go through a processor that extracts residual solvents for reuse as degreasers. The polymeric residues, which do not exhibit any hazardous waste characteristics, are blended with asphaltic materials to make (a more crack-resistant) asphalt for sale. The asphalt also does not exhibit hazardous waste characteristics.

What is the status of the polymeric residues?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [X] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The polymeric residues are a product of the reclamation of a characteristic by-product. Such products are not solid wastes unless they exhibit a hazardous characteristic and (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) require further processing to complete the reclamation process. In this case, the polymeric residues are used in asphalt that is placed on the ground for beneficial use; however, these residues do not exhibit any hazardous characteristics. Thus, the residues are not solid wastes and are not subject to RCRA Subtitle C regulation.

See Also: Other - Non-Hazardous Secondary Material 7
Other - Non-Secondary Material 13
Use Constituting Disposal - By-Product 4

OTHER - NON-HAZARDOUS SECONDARY MATERIAL 7

Description:

Amorphous polypropylene residues (by-products exhibiting the characteristic of ignitability) go through a processor that extracts residual solvents for reuse as degreasers. The polymeric residues, which do not exhibit any hazardous waste characteristics, are blended with asphaltic materials to make (a more crack-resistant) asphalt for sale. The asphalt also does not exhibit any hazardous waste characteristics.

What is the status of the asphalt?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [X] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

This asphalt is produced by blending asphaltic materials with the polymeric residues. Such products are not solid wastes unless they exhibit a hazardous characteristic and (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) require further processing to complete the reclamation process. In this case, the asphalt is placed on the ground for beneficial use; however, the asphalt does not exhibit hazardous waste characteristics. Thus the asphalt is not a solid waste and is not subject to RCRA Subtitle C regulation.

See Also: Other - Non-Hazardous Secondary Material 6
Other - Non-Secondary Material 13
Use Constituting Disposal - By-Product 4

OTHER - NON-HAZARDOUS SECONDARY MATERIAL 8

Description of Activity:

Waste etchants containing chromium and sulfuric acid from surface-finishing operations (a spent material exhibiting the characteristics of EP-toxicity and corrosivity), are treated with a substrate, producing trivalent chromium. The other metals (which do not exhibit any hazardous waste characteristics) are transferred to a catholyte and then sold to a secondary smelter for reclamation, leaving a regenerated etchant.

What is the status of the metals that are transferred to the catholyte?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [X] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision excludes commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

Applicable Regulations:

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

Discussion:

The metals are the product of the reclamation of a characteristic spent material. Such products are not solid wastes themselves unless they exhibit a hazardous waste characteristic and (a) are placed on the ground in a manner constituting disposal, (b) are burned as a fuel, or (c) must be further reclaimed before they can be reused. In this case, the metals do not exhibit hazardous waste characteristics. Thus they are not solid wastes and are not subject to RCRA Subtitle C regulation.

See Also: Reclamation - Spent Material 25

OTHER - NON-HAZARDOUS SECONDARY MATERIAL 9

Description of Activity:

Spent platinum catalysts used in chemicals manufacturing (non-listed spent materials that do not exhibit any hazardous waste characteristics) are returned to the manufacturer, who regenerates them.

What is the status of the spent catalysts?

Questions:

1. Is the material that is recycled a secondary material?

   [X] yes [ ] no

   If yes, go on to question (2).
   If no, the material is not a solid waste.

2. Is the material hazardous? (A material is hazardous if it is listed under 40 CFR 261.30-.33 or exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and is not specifically excluded from the definition of hazardous waste under 40 CFR 261.4(b).)

   [ ] yes [X] no

   If yes, go on to question (3).
   If no, the material is not a solid waste.

3. Is the material specifically excluded from the definition of solid waste under 40 CFR 261.4(a) (see the list in Exhibit 5)?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, go on to question (4).

4. Is the material inherently waste-like (see the list in Exhibit 4)?

   [ ] yes [ ] no

   If yes, the material is a solid waste. See applicable regulations, below.
   If no, go on to question (5).

5. Does the activity serve a beneficial use?

   [ ] yes [ ] no

   If yes, go on to question (6).
   If no, the activity is not recycling, and the material is a solid waste. See applicable regulations, below.

6. Is there a feasible means for recycling the waste?

   [ ] yes [ ] no

   If yes, go on to question (6a).
   If no, go on to question (6b).

6a. Is at least 75 percent of the material recycled within one calendar year?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, go on to question (6b).

6b. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed as a hazardous waste in 40 CFR 261.33?

   [ ] yes [ ] no

   If yes, go on to question (7).
   If no, the practice is speculative accumulation, and the material is a solid waste. See applicable regulations, below.

7. Is the material placed on the ground or used in a product that is placed on the ground?

   [ ] yes [ ] no

   If yes, go on to question (7a).
   If no, go on to question (8).

7a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 that is produced for application to the land?

   [ ] yes [ ] no

   If yes, the material is not a solid waste.
   If no, the activity results in use constituting disposal and the material is a solid waste. See applicable regulations, below.

8. Is the material used as a fuel or used to produce a fuel?

   [ ] yes [ ] no

   If yes, go on to question (8a).
   If no, go on to question (9).

8a. Is the material a commercial chemical product that exhibits a hazardous waste characteristic or is listed in 40 CFR 261.33 and that is produced to be burned as fuel?

[ ] yes [ ] no

If yes, the material is not a solid waste.
If no, the activity results in burning for energy recovery, and the material is a solid waste. See applicable regulations, below.

9. Is the material used or reused

[ ] as an ingredient in an industrial process to make a new product without intermediate reclamation (regeneration or recovery of materials),

[ ] as an effective substitute for commercial products in a particular function or application, or

[ ] as a substitute for raw material feedstock in the primary production process from which it was generated, without being first reclaimed (a closed-loop process)?

If any of the above apply, the activity is use or reuse, and the material is not a solid waste.
If none of the above apply, go on to question (10).

10. Is the material regenerated or are materials with value recovered from the original material?

[ ] yes [ ] no

If yes, the activity is reclamation. Go on to question (10a).
If no, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

10a. Is the material

[ ] a hazardous waste listed under 40 CFR 261.31 or 261.32 (this provision <u>excludes</u> commercial chemical products, which are listed under 40 CFR 261.33),

[ ] a spent material exhibiting one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, or

[ ] a scrap metal?

If any of the above apply, the material is a solid waste. See applicable regulations, below.
If none of the above apply, go on to question (10b).

10b. Is the material

[ ] either a sludge or a by-product that exhibits one of the characteristics of a hazardous waste given in 40 CFR 261.20-.24, and that is not listed under 40 CFR 261.31-.32, or

[ ] a commercial chemical product that exhibits a hazardous waste characteristic or is listed under 40 CFR 261.33?

If any of the above apply, the material is not a solid waste.
If none of the above apply, please review the definitions of activities in this manual and reconsider your answers, or call the RCRA Hotline for assistance.

<u>Applicable Regulations</u>

1. Is the waste exempt from regulation (see the list in Exhibit 6)?

[ ] yes [ ] no

If yes, the material is not regulated.
If no, the material is regulated. See item (2), below.

<u>Discussion</u>:

The catalysts are not listed and do not exhibit any characteristics of hazardous wastes; therefore, they are not hazardous. Recycled secondary materials that are not hazardous are not solid wastes and are not subject to RCRA Subtitle C regulation.

This chapter presents an index to the examples in Chapter 2. Each example (cited by example number rather than by page number) is referenced by key words that describe the recycled material, the recycling process, the processes that generate and/or use the recycled material, or the industry of interest.

The user can consult this index to locate examples similar to the practice of interest, based on the key words provided.

Acetone
Reclamation - Spent Material 22

Acetylene Gas
Use/Reuse - By-Product 1

Acid Digested Coal Ash
Reclamation - By-Product 11

Acid Etching Solution
Other - Non-Secondary Material 7
Other - Non-Hazardous Secondary Material 3
Other - Non-Hazardous Secondary Material 4
Reclamation - Spent Material 13
Use Constituting Disposal - Spent Material 1

Acid, Spent
Reclamation - Spent Material 11

Activated Carbon Adsorption
(See Carbon adsorption)

Addition to Water
- Use/Reuse - By-Product 1
- Use/Reuse - Spent Material 2
- Use/Reuse - Sludge 3

Adhesive Thinner
- Reclamation - Spent Material 27

Adsorptive Bubble Technique
- Reclamation - By-Product 11

Air Emission Control Dust
- Use/Reuse - Sludge 3

Alcohol
- Reclamation - Spent Material 26

Alcohols, Heavy
- Energy Recovery - Spent Material 3
- Energy Recovery - By-Product 3
- Energy Recovery - Mixed Material 1

Aluminum
- Reclamation - By-Product 11
- Reclamation - Spent Material 15
- Reclamation - Spent Material 16
- Reclamation - Spent Material 17

Aluminum Production
- Use/Reuse - Spent Material 4

Aluminum Sulfate
- Reclamation - Spent Material 15
- Reclamation - Spent Material 16
- Reclamation - Spent Material 17

Aluminum Trichloride
- Reclamation - Spent Material 8

Amorphous Polypropylene Residues
- Other - Non-Hazardous Secondary Material 6
- Other - Non-Hazardous Secondary Material 7
- Other - Non-Secondary Material 13
- Use Constituting Disposal - By-Product 4

Arsenic Compounds
    Reclamation - Spent Material 12

Asphalt
    Other - Non-Hazardous Secondary Material 6
    Other - Non-Hazardous Secondary Material 7
    Other - Non-Secondary Material 13
    Use Constituting Disposal - By-Product 4

Assembly of Chain Saws
    Reclamation - Spent Material 27

Assembly of String Trimmers
    Reclamation - Spent Material 27

Automobile Shredder Rejects
    Reclamation - Scrap Metal 1
    Reclamation - Scrap Metal 3

Bag Filter Materials
    Use/Reuse - Sludge 5

Baghouse Dust
    Reclamation - Sludge 7
    Use/Reuse - Sludge 8

Basic Organic Chemicals
    Energy Recovery - Spent Material 2

Battery Crackers
    Reclamation - Spent Material 1
    Reclamation - Spent Material 2

Battery Manufacturing
    Reclamation - By-Product 10
    Reclamation - Scrap Metal 2
    Reclamation - Spent Material 3

Benzyl Chloride
    Reclamation - By-Product 3

Berms
    Other - Non-Hazardous Secondary Material 2
    Use Constituting Disposal - Sludge 1

Blast Furnace
- Energy Recovery - By-Product 1
- Energy Recovery - By-Product 2
- Use/Reuse - Sludge 6
- Use/Reuse - Sludge 7

Blending
- Other - Non-Secondary Material 13
- Other - Non-Hazardous Secondary Material 6
- Other - Non-Hazardous Secondary Material 7
- Use Constituting Disposal - By-Product 4

Brass
- Reclamation - Sludge 7

Brass Dross Skimmings
- Reclamation - By-Product 1
- Use Constituting Disposal - By-Product 1
- Use Constituting Disposal - By-Product 2
- Use Constituting Disposal - By-Product 3

Brass Mill
- Other - Non-Secondary Material 6
- Reclamation - Sludge 7
- Reclamation - Spent Material 11

Brass Production
- Other - Non-Secondary Material 6
- Reclamation - Sludge 7
- Reclamation - Spent Material 11

Bright Dipping
- Reclamation - Spent Material 15
- Reclamation - Spent Material 16
- Reclamation - Spent Material 17

Briquetting
- Use/Reuse - Sludge 8

By-Product
- (See Listed By-Product or Characteristic By-Product)

By-Product Recovery
- Reclamation - Sludge 8

Cadmium
- Reclamation - Sludge 8
- Use Constituting Disposal - Sludge 6

Carbon
- Energy Recovery - By-Product 1
- Energy Recovery - By-Product 2

Carbon Adsorption
- Other - Non-Secondary Material 8
- Reclamation - Spent Material 5
- Reclamation - Spent Material 9
- Reclamation - Spent Material 18
- Reclamation - Spent Material 19
- Reclamation - Spent Material 20

Carbon Tetrachloride
- Other - Non-Secondary Material 10
- Reclamation - By-Product 8
- Use/Reuse - By-Product 2

Catalysts
- Other - Non-Hazardous Secondary Material 9
- Reclamation - Spent Material 8
- Use/Reuse - Spent Material 4
- Use/Reuse - Spent Material 5

Catholyte
- Other - Non-Hazardous Secondary Material 8
- Reclamation - Spent Material 25

Chain Saw Assembly
- Reclamation - Spent Material 27

Characteristic By-Product
- Energy Recovery - By-Product 3
- Energy Recovery - Mixed Material 1
- Energy Recovery - Spent Material 3
- Other - Non-Hazardous Secondary Material 6
- Other - Non-Hazardous Secondary Material 7
- Other - Non-Secondary Material 10
- Other - Non-Secondary Material 13
- Reclamation - By-Product 1
- Reclamation - By-Product 4
- Reclamation - By-Product 7
- Reclamation - By-Product 8

Characteristic By-Product, continued
- Reclamation - By-Product 9
- Reclamation - By-Product 10
- Reclamation - By-Product 11
- Use Constituting Disposal - By-Product 1
- Use Constituting Disposal - By-Product 2
- Use Constituting Disposal - By-Product 3
- Use Constituting Disposal - By-Product 4
- Use/Reuse - By-Product 1
- Use/Reuse - Sludge 7

Characteristic Scrap Metal
- Reclamation - Scrap Metal 1
- Reclamation - Scrap Metal 2
- Reclamation - Scrap Metal 3

Characteristic Sludge
- Other - Non-Hazardous Secondary Material 2
- Reclamation - Sludge 4
- Reclamation - Sludge 5
- Reclamation - Sludge 7
- Reclamation - Sludge 8
- Reclamation - Sludge 10
- Reclamation - Sludge 11
- Use Constituting Disposal - Sludge 1
- Use Constituting Disposal - Sludge 2
- Use Constituting Disposal - Sludge 3
- Use Constituting Disposal - Sludge 4
- Use Constituting Disposal - Sludge 5
- Use Constituting Disposal - Sludge 6
- Use/Reuse - Sludge 2
- Use/Reuse - Sludge 3
- Use/Reuse - Sludge 4
- Use/Reuse - Sludge 6
- Use/Reuse - Sludge 8

Characteristic Spent Material
- Energy Recovery - By-Product 3
- Energy Recovery - Mixed Material 1
- Energy Recovery - Spent Material 1
- Energy Recovery - Spent Material 3
- Other - Non-Hazardous Secondary Material 3
- Other - Non-Hazardous Secondary Material 4
- Other - Non-Hazardous Secondary Material 8
- Other - Non-Secondary Material 6
- Other - Non-Secondary Material 7

Characteristic Spent Material (continued)

- Other - Non-Secondary Material 14
- Other - Spent Material 1
- Other - Spent Material 2
- Other - Spent Material 3
- Other - Spent Material 4
- Reclamation - Spent Material 1
- Reclamation - Spent Material 2
- Reclamation - Spent Material 3
- Reclamation - Spent Material 6
- Reclamation - Spent Material 8
- Reclamation - Spent Material 11
- Reclamation - Spent Material 13
- Reclamation - Spent Material 15
- Reclamation - Spent Material 16
- Reclamation - Spent Material 17
- Reclamation - Spent Material 23
- Reclamation - Spent Material 25
- Reclamation - Spent Material 26
- Use Constituting Disposal - Non-Hazardous Secondary Material 1
- Use Constituting Disposal - Spent Material 1
- Use Constituting Disposal - Spent Material 2
- Use/Reuse - Spent Material 3
- Use/Reuse - Spent Material 4
- Use/Reuse - Spent Material 5
- Use/Reuse - Spent Material 6
- Use/Reuse - Spent Material 7
- Use/Reuse - Spent Material 8

Chemical Manufacturing

- Energy Recovery - By-Product 3
- Energy Recovery - Mixed Material 1
- Energy Recovery - Spent Material 3
- Other - Non-Hazardous Secondary Material 2
- Other - Non-Hazardous Secondary Material 9
- Reclamation - Spent Material 8
- Reclamation - By-Product 3
- Reclamation - By-Product 4
- Use Constituting Disposal - Sludge 1
- Use/Reuse - Spent Material 4
- Use/Reuse - Spent Material 5

Chloralkali Sludges

- Reclamation - By-Product 6

Chloride
- Reclamation - By-Product 3
- Reclamation - By-Product 4

Chlorinated Organic Solvents
- Use/Reuse - Spent Material 8

Chlorination
- Other - Non-Secondary Material 10
- Reclamation - By-Product 8

Chlorine
- Reclamation - By-Product 3
- Reclamation - By-Product 4

Chlorine Production
- Reclamation - By-Product 5

Chloromethanes
- Other - Non-Secondary Material 10
- Reclamation - By-Product 8

Chlorinated Hydrocarbon Waste
- Reclamation - By-Product 5

Chromic Acid
- Other - Non-Secondary Material 9
- Other - Non-Secondary Material 12
- Reclamation - Sludge 3
- Reclamation - Spent Material 4

Chromium
- Other - Non-Hazardous Secondary Material 8
- Other - Non-Secondary Material 9
- Other - Non-Secondary Material 12
- Reclamation - By-Product 11
- Reclamation - Sludge 3
- Reclamation - Spent Material 4
- Reclamation - Spent Material 25

Chromium Hydroxide
- Use/Reuse - Sludge 1

Chromium Sulfate
- Use/Reuse - Sludge 1

Circuit Boards
    Other - Non-Secondary Material 4

Cleaning
    Other - Non-Secondary Material 11
    Reclamation - Spent Material 22

Closed Loop Process
    Use/Reuse - Sludge 2
    Use/Reuse - Spent Material 3
    Use/Reuse - Sludge 4
    Use/Reuse - Sludge 5
    Use/Reuse - Sludge 6
    Use/Reuse - Sludge 7
    Use/Reuse - Sludge 8

Coal
    Energy Recovery - By-Product 1
    Energy Recovery - By-Product 2

Coal Ash
    Reclamation - By-Product 11

Coated Fabric Production
    Other - Non-Secondary Material 11

Cobalt
    Reclamation - By-Product 11

Coke
    Energy Recovery - By-Product 1
    Energy Recovery - By-Product 2
    Energy Recovery - By-Product 4

Collection
    Use/Reuse - Sludge 8

Column Bottoms
    Other - Non-Secondary Material 2
    Other - Non-Secondary Material 5
    Reclamation - By-Product 2

Commercial Chemical Product
    Other - Non-Secondary Material 15
    Reclamation - Spent Material 24

Commercial Conditioning Agent
Other - Spent Material 4

Commercial Product Substitute
(See substitute for commercial product)

Computer Manufacturing
Reclamation - Sludge 9

Concentrate
Other - Non-Secondary Material 14
Reclamation - Spent Material 23

Concentration
Other - Non-Secondary Material 14
Reclamation - Spent Material 7
Reclamation - Spent Material 23

Condensate
Reclamation - By-Product 7

Condensation
Reclamation - By-Product 6
Reclamation - Spent Material 15
Reclamation - Spent Material 16
Reclamation - Spent Material 17

Continued Use of Material
Other - Non-Secondary Material 1
Other - Non-Secondary Material 3
Other - Non-Secondary Material 4

Converter
Use/Reuse - Sludge 4

Copper
Other - Non-Secondary Material 6
Other - Non-Secondary Material 14
Reclamation - By-Product 1
Reclamation - By-Product 11
Reclamation - By-Product 18
Reclamation - Sludge 9
Reclamation - Sludge 10
Reclamation - Spent Material 23
Use Constituting Disposal - Sludge 6
Use/Reuse - Spent Material 3

Copper Electroplating
- Other - Non-Secondary Material 14
- Reclamation - Spent Material 23

Copper Production
- Use/Reuse - Spent Material 3
- Use/Reuse - Sludge 4

Cyanide Plating Bath
- Other - Non-Secondary Material 8
- Reclamation - Spent Material 19
- Reclamation - Spent Material 20

Decanter Tank Tar Sludge
- Energy Recovery - By-Product 1
- Energy Recovery - By-Product 2
- Energy Recovery - By-Product 4

Decanting
- Reclamation - Spent Material 5

Decolorization Operations
- Reclamation - Spent Material 12

Degreasing
- Other - Non-Hazardous Secondary Material 6
- Other - Non-Hazardous Secondary Material 7
- Other - Non-Secondary Material 13
- Reclamation - Spent Material 21
- Use Constituting Disposal - By-Product 4

Demisting
- Reclamation - By-Product 6

Dewatering
- Reclamation - By-Product 6
- Reclamation - Sludge 9

Diaphragm Cell Process
- Reclamation - By-Product 5

Diluents
- Reclamation - Spent Material 18

Distillate
- Other - Non-Secondary Material 14
- Reclamation - Spent Material 23

Distillation
- Energy Recovery - Spent Material 1
- Other - Non-Secondary Material 10
- Reclamation - By-Product 3
- Reclamation - By-Product 4
- Reclamation - By-Product 7
- Reclamation - By-Product 8
- Reclamation - By-Product 11
- Reclamation - By-Product 16
- Reclamation - Sludge 4
- Reclamation - Spent Material 10
- Reclamation - Spent Material 21
- Reclamation - Spent Material 22
- Reclamation - Spent Material 26

Distillation Bottoms
- Use/Reuse - By-Product 2

Distillation Residue
- Energy Recovery - Spent Material 1

Dredging
- Energy Recovery - Non-Secondary Material 1

Dross Furnace
- Use/Reuse - Sludge 2

Dross Skimmings
- Reclamation - By-Product 1
- Use Constituting Disposal - By-Product 1
- Use Constituting Disposal - By-Product 2
- Use Constituting Disposal - By-Product 3

Dusts, Blast Furnace
- Use/Reuse - Sludge 7

Electrolytes
- Reclamation - Spent Material 3

Electrolytic Stripping
- Reclamation - Sludge 11

Electronics Manufacturing
- Reclamation - Sludge 9

Electroplating
- Other - Non-Secondary Material 8
- Other - Non-Secondary Material 14
- Reclamation - Sludge 8
- Reclamation - Spent Material 19
- Reclamation - Spent Material 20
- Reclamation - Spent Material 23

Electroplating Sludge
- Reclamation - Sludge 9

Electrostatic Precipitator Ash
- Reclamation - Sludge 11

Emission Control Dust
- Reclamation - Sludge 5
- Reclamation - Sludge 8
- Use/Reuse - Sludge 2
- Use/Reuse - Sludge 4
- Use/Reuse - Sludge 6

Equipment Washing
- Other - Non-Secondary Material 11

Etchants
- Other - Non-Hazardous Secondary Material 8
- Reclamation - Spent Material 25

Etching Solution
- Use/Reuse - Spent Material 6

Ethyl Alcohol
- Energy Recovery - Spent Material 1
- Reclamation - Spent Material 6

Evaporation
- Other - Non-Secondary Material 8
- Other - Non-Secondary Material 14
- Reclamation - Spent Material 7
- Reclamation - Spent Material 15
- Reclamation - Spent Material 16
- Reclamation - Spent Material 17
- Reclamation - Spent Material 19

Evaporation, continued
- Reclamation - Spent Material 20
- Reclamation - Spent Material 23
- Use/Reuse - Spent Material 6

Excluded
- Other - Spent Material 1
- Other - Spent Material 2
- Other - Spent Material 3

Exempt
- Energy Recovery - By-Product 2
- Reclamation - Scrap Metal 1
- Reclamation - Scrap Metal 2
- Reclamation - Scrap Metal 3
- Reclamation - Sludge 2
- Reclamation - Spent Material 1
- Reclamation - Spent Material 3
- Reclamation - Spent Material 6
- Use Constituting Disposal - Sludge 4

Explosives
- Reclamation - Sludge 6

F001 Waste
- Reclamation - Spent Material 5

F001-F005 Wastes
- Reclamation - Spent Material 9
- Reclamation - Spent Material 21

F002 Waste
- Reclamation - Spent Material 10

F003 Waste
- Reclamation - Spent Material 22

F005 Waste
- Other - Non-Secondary Material 11
- Reclamation - Spent Material 27

F006 Waste
- Reclamation - Sludge 2
- Reclamation - Sludge 9
- Use/Reuse - Sludge 1

F007 Waste
- Other - Non-Secondary Material 8
- Other - Non-Secondary Material 9
- Other - Non-Secondary Material 12
- Reclamation - Spent Material 4
- Reclamation - Sludge 3
- Reclamation - Spent Material 19
- Reclamation - Spent Material 20

F021 Waste
- Use/Reuse - Sludge 5

Ferric Chloride
- Reclamation - Spent Material 7

Ferrous Chloride
- Reclamation - Spent Material 7

Fertilizer
- Other - Non-Hazardous Secondary Material 2
- Other - Non-Hazardous Secondary Material 3
- Other - Non-Hazardous Secondary Material 4
- Reclamation - By-Product 1
- Use Constituting Disposal - By-Product 1
- Use Constituting Disposal - By-Product 2
- Use Constituting Disposal - By-Product 3
- Use Constituting Disposal - Non-Hazardous Secondary Material 1
- Use Constituting Disposal - Sludge 1
- Use Constituting Disposal - Sludge 2
- Use Constituting Disposal - Sludge 3
- Use Constituting Disposal - Sludge 4
- Use Constituting Disposal - Sludge 5
- Use Constituting Disposal - Sludge 6
- Use Constituting Disposal - Spent Material 1
- Use Constituting Disposal - Spent Material 2

Filter Press Sludge
- Other - Non-Hazardous Secondary Material 5

Filtration
- Use/Reuse - Spent Material 6

Flue Dusts
- Reclamation - Sludge 10
- Use Constituting Disposal - Sludge 2
- Use Constituting Disposal - Sludge 3
- Use Constituting Disposal - Sludge 4
- Use Constituting Disposal - Sludge 5

Flue Gas
- Reclamation - Sludge 11

Fluoridating Agent
- Use/Reuse - Sludge 3

Food-Grade Phosphoric Acid
- Use/Reuse - Spent Material 5

Friedel Krafts Catalyst
- Use/Reuse - Spent Material 4

Fuel
- Energy Recovery - By-Product 4

Further Reclamation
- Other - Non-Secondary Material 15
- Reclamation - Spent Material 24

Galvanized Metals
- Reclamation - Sludge 10
- Reclamation - Sludge 11

Gold
- Reclamation - Sludge 2

Graphic Arts Industry
- Reclamation - Spent Material 18

Graphite Anodes
- Reclamation - By-Product 5

Greases
- Reclamation - Spent Material 21

Halogenated Solvents
- Reclamation - Spent Material 10

Heavy Alcohols
- Energy Recovery - By-Product 3
- Energy Recovery - Mixed Material 1
- Energy Recovery - Spent Material 3

Heavy Ends
- Other - Non-Secondary Material 2
- Other - Non-Secondary Material 5
- Reclamation - By-Product 2

Heavy Metals
- Use Constituting Disposal - Sludge 6

Heavy Residuals
- Energy Recovery - By-Product 3
- Energy Recovery - Spent Material 3

Herbicides
- Reclamation - Sludge 4

Hexachlorobenzene
- Other - Non-Secondary Material 10
- Reclamation - By-Product 8

Hexachlorobutadiene
- Other - Non-Secondary Material 2
- Other - Non-Secondary Material 5
- Other - Non-Secondary Material 10
- Reclamation - By-Product 2
- Reclamation - By-Product 8

Hydrocarbon Waste
- Reclamation - By-Product 5

Hydrocarbons
- Energy Recovery - By-Product 3
- Energy Recovery - Mixed Material 1
- Energy Recovery - Spent Material 3

Hydrochloric Acid
- Reclamation - By-Product 3
- Reclamation - By-Product 4
- Use/Reuse - Spent Material 8

Hydrofluoric Acid
- Use/Reuse - Spent Material 6

Hydrofluorosilicic Acid
    Use/Reuse - Sludge 3

Incinerator
    Reclamation - Sludge 11

Industrial Boiler
    Energy Recovery - Spent Material 2

Industrial Ethyl Alcohol
    Energy Recovery - Spent Material 1
    Reclamation - Spent Material 6

Ingredient
    Use/Reuse - By-Product 2
    Use/Reuse - Sludge 1
    Use/Reuse - Spent Material 6
    Use/Reuse - Spent Material 7

Inherently Waste-Like
    Use/Reuse - Sludge 5

Inks
    Reclamation - Spent Material 18

Integrated Circuits
    Reclamation - By-Product 10

Ion Exchange
    Other - Non-Secondary Material 9
    Other - Non-Secondary Material 12
    Reclamation - Sludge 3
    Reclamation - Sludge 4
    Reclamation - Spent Material 4
    Reclamation - Spent Material 15
    Reclamation - Spent Material 16
    Reclamation - Spent Material 17

Iridium
    Reclamation - Sludge 2

Iron
    Reclamation - By-Product 11

Iron Oxide
Use/Reuse - Spent Material 7

Isopropyl Alcohol
Reclamation - Spent Material 26

K014 Waste
Reclamation - By-Product 3

K016 Waste
Use/Reuse - By-Product 2

K030 Waste
Other - Non-Secondary Material 2
Other - Non-Secondary Material 5
Reclamation - By-Product 2

K045 Waste
Reclamation - Sludge 6

K047 Waste
Use/Reuse - Spent Material 1

K061 Waste
Use/Reuse - Sludge 6
Use/Reuse - Sludge 8

K062 Waste
Other - Non-Secondary Material 6
Reclamation - Spent Material 7
Reclamation - Spent Material 11
Reclamation - Spent Material 14
Use/Reuse - Spent Material 2

K071 Waste
Reclamation - By-Product 6

K073 Waste
Reclamation - By-Product 5

K086 Waste
Reclamation - Spent Material 18

K087 Waste
- Energy Recovery - By-Product 1
- Energy Recovery - By-Product 2
- Energy Recovery - By-Product 4

K102 Waste
- Reclamation - Spent Material 12

Ketones
- Energy Recovery - By-Product 3
- Energy Recovery - Mixed Material 1
- Energy Recovery - Spent Material 3

Kieselguhr Clay
- Use/Reuse - Spent Material 5

Landfill Cover Material
- Other - Non-Hazardous Secondary Material 2
- Use Constituting Disposal - Sludge 1

Lanolin
- Reclamation - Spent Material 21

Lead
- Reclamation - By-Product 5
- Reclamation - By-Product 10
- Reclamation - By-Product 11
- Reclamation - Spent Material 1
- Reclamation - Spent Material 2
- Use Constituting Disposal - Sludge 6

Lead Acid-Batteries
- Reclamation - By-Product 10

Leather Tanning
- Use/Reuse - Sludge 1

Levees
- Other - Non-Hazardous Secondary Material 2
- Use Constituting Disposal - Sludge 1

Lime
- Use/Reuse - By Product 1

Liquid-Liquid Extraction
- Reclamation - Spent Material 14

Listed
- (See numerical listing, e.g., K062)

Listed By-Product
- Energy Recovery - By-Product 1
- Energy Recovery - By-Product 2
- Energy Recovery - By-Product 4
- Other - Non-Secondary Material 2
- Other - Non-Secondary Material 5
- Reclamation - By-Product 2
- Reclamation - By-Product 3
- Reclamation - By-Product 5
- Reclamation - By-Product 6
- Use/Reuse - By-Product 2

Listed Sludge
- Other - Non-Secondary Material 12
- Reclamation - Sludge 1
- Reclamation - Sludge 2
- Reclamation - Sludge 3
- Reclamation - Sludge 6
- Reclamation - Sludge 9
- Reclamation - Spent Material 4
- Use/Reuse - Sludge 1
- Use/Reuse - Sludge 5

Listed Spent Material
- Other - Non-Secondary Material 8
- Other - Non-Secondary Material 9
- Other - Non-Secondary Material 11
- Other - Non-Secondary Material 12
- Other - Non-Secondary Material 15
- Reclamation - Sludge 3
- Reclamation - Spent Material 4
- Reclamation - Spent Material 5
- Reclamation - Spent Material 7
- Reclamation - Spent Material 9
- Reclamation - Spent Material 10
- Reclamation - Spent Material 11
- Reclamation - Spent Material 12
- Reclamation - Spent Material 14
- Reclamation - Spent Material 18

Listed Spent Material, continued
Reclamation - Spent Material 19
Reclamation - Spent Material 20
Reclamation - Spent Material 21
Reclamation - Spent Material 22
Reclamation - Spent Material 24
Reclamation - Spent Material 27
Use/Reuse - Spent Material 1
Use/Reuse - Spent Material 2

Magnesium Casting
Reclamation - Spent Material 27

Manganese
Reclamation - By-Product 11

Marine Fuel
Energy Recovery - By-Product 3
Energy Recovery - Mixed Material 1
Energy Recovery - Spent Material 3

Mercury
Reclamation - By-Product 6

Metal Cations
Reclamation - By-Product 11

Metal degreasers
Other - Non-Secondary Material 4

Metal Finishing
Other - Non-Secondary Material 9
Other - Non-Secondary Material 12
Reclamation - Sludge 2
Reclamation - Sludge 3
Reclamation - Sludge 8
Reclamation - Spent Material 4
Use Constituting Disposal - Non-Hazardous Secondary Material 1
Use Constituting Disposal - Spent Material 2
Use/Reuse - Sludge 1

Metal Refining
Use Constituting Disposal - Sludge 2
Use Constituting Disposal - Sludge 3
Use Constituting Disposal - Sludge 4
Use Constituting Disposal - Sludge 5

Metallurgical Industries
    Use/Reuse - Spent MAterial 6

Metals
    Other - Non-Hazardous Secondary Material 8
    Reclamation - By-Product 1
    Reclamation - Spent Material 25
    Use Constituting Disposal - Sludge 1

Metals, Galvanized
    Reclamation - Sludge 10
    Reclamation - Sludge 11

Metals, Heavy
    Use Constituting Disposal - Sludge 6

Metals, Non-Ferrous Mixed
    Reclamation - Scrap Metal 1
    Reclamation - Scrap Metal 3

Metals, Unspecified
    Other - Non-Hazardous Secondary Material 2
    Reclamation - Sludge 9

Methanol
    Other - Non-Secondary Material 15
    Reclamation - Sludge 4
    Reclamation - Spent Material 24

Methyl Ethyl Ketone
    Other - Non-Secondary Material 17
    Reclamation - Spent Material 27

Methylene Chloride
    Reclamation - By-Product 9
    Reclamation - Spent Material 10
    Use/Reuse - Spent Material 8

Mixed Metals
    Reclamation - Scrap Metal 1
    Reclamation - Scrap Metal 3

Mixing
- Energy Recovery - By-Product 3
- Energy Recovery - Mixed Material 1
- Energy Recovery - Spent Material 3

Motor Oil Production
- Other - Spent Material 1

Municipal Incinerator
- Reclamation - Sludge 11

Municipal Wastewater Treatment Sludge
- Use Constituting Disposal - Sludge 6

Natural Gas Transmission
- Energy Recovery - Non-Secondary Material 1

Neutralization
- Other - Non-Secondary Material 9
- Other - Non-Secondary Material 12
- Reclamation - Sludge 3
- Reclamation - Spent Material 4
- Reclamation - Spent Material 7

Nickel
- Reclamation - By-Product 11
- Use Constituting Disposal - Sludge 6

Nickel Tube
- Other - Non-Secondary Material 10
- Reclamation - By-Product 8

Nitric Acid
- Reclamation - Spent Material 15
- Reclamation - Spent Material 16
- Reclamation - Spent Material 17

Non-Beneficial Use
- Other - Spent Material 4

Non-Magnetic Shredder Rejects
- Reclamation - Scrap Metal 1
- Reclamation - Scrap Metal 3

Non-Ferrous Mixed Metals
- Reclamation - Scrap Metal 1
- Reclamation - Scrap Metal 3

Oils
- Reclamation - Spent Material 26

Olefin Polymerization Catalyst
- Use/Reuse - Spent Material 5

Oleum
- Other - Spent Material 1

Organic Chemicals Manufacturing
- Energy Recovery - Spent Material 2

Organic Intermediates
- Energy Recovery - Spent Material 2

Organic Solvents
- Use/Reuse - Spent Material 8

Organo-Arsenic Compounds
- Reclamation - Spent Material 12

Organo-Tin Manufacturing
- Other - Non-Hazardous Secondary Material 5

Osmium
- Reclamation - Sludge 2

Oxides
- Reclamation - By-Product 1
- Reclamation - Spent Material 1
- Reclamation - Spent Material 2
- Use Constituting Disposal - By-Product 1
- Use Constituting Disposal - By-Product 2
- Use Constituting Disposal - By-Product 3

Paint Manufacture
- Other - Non-Secondary Material 7
- Reclamation - Spent Material 13

Palladium
- Reclamation - Sludge 2

Paper Industry
    Use/Reuse - Spent Material 1

Pentachlorphenol
    Use/Reuse - Sludge 5

Perchloroethylene
    Other - Non-Secondary Material 2
    Other - Non-Secondary Material 5
    Reclamation - By-Product 2

Perfumes
    Reclamation - Spent Material 26

Petroleum Fractionalization
    Use/Reuse - Spent Material 5

Petroleum Refining
    Reclamation - By-Product 7

pH Adjustment
    Reclamation - By-Product 11

Pharmaceutical Manufacturing
    Other - Non-Secondary Material 15
    Reclamation - Spent Material 24

Phenol
    Reclamation - By-Product 7

Phenoxy Herbicides
    Reclamation - Sludge 4

Phosphoric Acid
    Reclamation - Spent Material 15
    Reclamation - Spent Material 16
    Reclamation - Spent Material 17
    Use/Reuse - Spent Material 5

Pickle Liquor
    Other - Non-Secondary Material 6
    Reclamation - Spent Material 7
    Reclamation - Spent Material 14
    Use/Reuse - Spent Material 2
    Use/Reuse - Spent Material 8

Pickling
- Reclamation - Spent Material 14
- Use/Reuse - Spent Material 8

Pink/Red Water
- Use/Reuse - Spent Material 1

Pipeline Condensate
- Energy Recovery - Non-Secondary Material 1

Plasticizers
- Energy Recovery - Spent Material 2

Plating Bath
- Other - Non-Secondary Material 9
- Other - Non-Secondary Material 12
- Other - Non-Secondary Material 14
- Reclamation - Sludge 3
- Reclamation - Spent Material 4
- Reclamation - Spent Material 23

Plating Bath Rinsewaters
- Other - Non-Secondary Material 14
- Reclamation - Spent Material 23

Platinum
- Reclamation - Sludge 2

Platinum Catalysts
- Other - Non-Hazardous Secondary Material 9

Pollution Control
- Reclamation - Sludge 4

Polymeric Residues
- Other - Non-Hazardous Secondary Material 6
- Other - Non-Hazardous Secondary Material 7
- Other - Non-Secondary Material 13
- Use Constituting Disposal - By-Product 4

Polypropylene
- Other - Non-Hazardous Secondary Material 6
- Other - Non-Hazardous Secondary Material 7
- Other - Non-Secondary Material 13
- Use Constituting Disposal - By-Product 4

Polyurethane Waste
    Reclamation - By-Product 9

Potassium Fluoride
    Use/Reuse - Spent Material 6

Potassium Hydroxide
    Use/Reuse - Spent Material 6

Precious Metals
    Reclamation - Sludge 2

Preservative
    Use/Reuse - Spent Material 6

Press and Roller Cleanup
    Other - Non-Secondary Material 3

Primary Smelting
    Reclamation - Sludge 5
    Reclamation - Sludge 8
    Use/Reuse - Sludge 2

Printed Circuit Boards
    Reclamation - By-Product 10
    Reclamation - Spent Material 9

Printing and Coating Operations
    Other - Non-Secondary Material 3

Printing and Publishing Industry
    Reclamation - Spent Material 18

Process Water
    Other - Non-Secondary Material 14
    Reclamation - Spent Material 23

Processor
    Other - Non-Hazardous Secondary Material 6
    Other - Non-Hazardous Secondary Material 7
    Other - Non-Secondary Material 13
    Use Constituting Disposal - By-Product 4

Product of Reclamation
- Energy Recovery - Spent Material 1
- Other - Non-Hazardous Secondary Material 2
- Other - Non-Hazardous Secondary Material 3
- Other - Non-Hazardous Secondary Material 4
- Other - Non-Hazardous Secondary Material 6
- Other - Non-Hazardous Secondary Material 7
- Other - Non-Hazardous Secondary Material 8
- Other - Non-Secondary Material 2
- Other - Non-Secondary Material 5
- Other - Non-Secondary Material 7
- Other - Non-Secondary Material 8
- Other - Non-Secondary Material 9
- Other - Non-Secondary Material 10
- Other - Non-Secondary Material 12
- Other - Non-Secondary Material 13
- Other - Non-Secondary Material 14
- Other - Non-Secondary Material 15
- Reclamation - Scrap Metal 3
- Reclamation - Spent Material 2
- Reclamation - Spent Material 16
- Reclamation - Spent Material 17
- Reclamation - Spent Material 20

Pulping Liquor
- Use/Reuse - Spent Material 1
- Other - Spent Material 2

Purification
- Reclamation - By-Product 5
- Reclamation - Spent Material 19
- Reclamation - Spent Material 20
- Use/Reuse - Spent Material 6

Pyrolitic Plant
- Use/Reuse - Sludge 2

Quick Drying
- Reclamation - Spent Material 27

Refuse Incineration
- Reclamation - Sludge 11

Regeneration
- Other - Non-Secondary Material 9
- Other - Non-Secondary Material 12
- Other - Non-Secondary Material 15
- Other - Non-Hazardous Secondary Material 8
- Other - Non-Hazardous Secondary Material 9
- Reclamation - Sludge 1
- Reclamation - Sludge 3
- Reclamation - Sludge 4
- Reclamation - Sludge 6
- Reclamation - Spent Material 3
- Reclamation - Spent Material 4
- Reclamation - Spent Material 5
- Reclamation - Spent Material 6
- Reclamation - Spent Material 9
- Reclamation - Spent Material 10
- Reclamation - Spent Material 11
- Reclamation - Spent Material 12
- Reclamation - Spent Material 14
- Reclamation - Spent Material 18
- Reclamation - Spent Material 21
- Reclamation - Spent Material 22
- Reclamation - Spent Material 24
- Reclamation - Spent Material 25
- Reclamation - Spent Material 26

Residuals, Heavy
- Energy Recovery - By-Product 3
- Energy Recovery - Mixed Material 1
- Energy Recovery - Spent Material 3

Residue from Reclamation
- Energy Recovery - Spent Material 1

Resin
- Other - Non-Secondary Material 9
- Other - Non-Secondary Material 12
- Reclamation - Sludge 3
- Reclamation - Sludge 4
- Reclamation - Spent Material 4
- Reclamation - Spent Material 15
- Reclamation - Spent Material 16
- Reclamation - Spent Material 17

Reverse Osmosis System
- Other - Non-Secondary Material 14
- Reclamation - Spent Material 23

Rhodium
- Reclamation - Sludge 2

Rinsewaters
- Other - Non-Secondary Material 14
- Reclamation - Spent Material 23

Rinsing Operations
- Other - Non-Secondary Material 8
- Reclamation - Spent Material 19
- Reclamation - Spent Material 20

Roasting
- Reclamation - By-Product 6
- Use/Reuse - Sludge 4

Ruthenium
- Reclamation - Sludge 2

Scouring Operations
- Reclamation - Spent Material 21

Scrap Metal
- Reclamation - Scrap Metal 1
- Reclamation - Scrap Metal 2
- Reclamation - Scrap Metal 3

Secondary Smelting
- Other - Non-Hazardous Secondary Material 5
- Other - Non-Hazardous Secondary Material 8
- Reclamation - By-Product 1
- Reclamation - By-Product 5
- Reclamation - By-Product 10
- Reclamation - Scrap Metal 1
- Reclamation - Scrap Metal 2
- Reclamation - Scrap Metal 3
- Reclamation - Sludge 7
- Reclamation - Sludge 8
- Reclamation - Sludge 10
- Reclamation - Spent Material 1
- Reclamation - Spent Material 2

Secondary Smelting, continued
- Reclamation - Spent Material 25
- Use Constituting Disposal - By-Product 1
- Use Constituting Disposal - By-Product 2
- Use Constituting Disposal - By-Product 3

Segregation
- Other - Non-Secondary Material 3

Separation
- Reclamation - By-Product 1

Sham Recycling
- Other - Spent Material 4

Shredder Rejects
- Reclamation - Scrap Metal 1
- Reclamation - Scrap Metal 3

Silver
- Reclamation - Sludge 2

Sintering Plant
- Use/Reuse - Sludge 6

Sludge
- (See Listed Sludge or Characteristic Sludge)

Smelting
- (See Primary Smelting or Secondary Smelting)

Sodium Hydroxide
- Other - Non-Secondary Material 9
- Other - Non-Secondary Material 12
- Reclamation - Sludge 3
- Reclamation - Spent Material 4

Solder Drosses
- Reclamation - By-Product 10

Solvents
- Energy Recovery - By-Product 3
- Energy Recovery - Mixed Material 1
- Energy Recovery - Spent Material 2
- Energy Recovery - Spent Material 3
- Other - Non-Hazardous Secondary Material 6
- Other - Non-Hazardous Secondary Material 7
- Other - Non-Secondary Material 4
- Other - Non-Secondary Material 13
- Reclamation - Spent Material 5
- Reclamation - Spent Material 9
- Reclamation - Spent Material 10
- Reclamation - Spent Material 18
- Reclamation - Spent Material 21
- Use Constituting Disposal - By-Product 4
- Use/Reuse - Spent Material 8

Solvent Extraction
- Reclamation - By-Product 7

Spent Activated Carbon
- Reclamation - Sludge 1

Spent Carbon
- Other - Non-Hazardous Secondary Material 1
- Reclamation - Sludge 6
- Reclamation - Spent Material 12

Spent Electrolyte
- Use/Reuse - Spent Material 3

Spent Lead-Acid Batteries
- Reclamation - Spent Material 1
- Reclamation - Spent Material 2
- Use Constituting Disposal - Non-Hazardous Secondary Material 1
- Use Constituting Disposal - Spent Material 2

Spent Material
- (See Listed Spent Material or Characteristic Spent Material)

Steam Stripper Condensate
- Reclamation - By-Product 7

Steel
- Energy Recovery - By-Product 1
- Energy Recovery - By-Product 2
- Reclamation - Spent Material 14
- Use/Reuse - Sludge 6

Steel Pickling
- Use/Reuse - Spent Material 8

Steel Production
- Use/Reuse - Sludge 8

Still Bottoms
- Reclamation - By-Product 3
- Reclamation - By-Product 4

String Trimmer Assembly
- Reclamation - Spent Material 27

Substantially Complete Reclamation
- Other - Non-Secondary Material 15
- Reclamation - Spent Material 24

Substitute for Commercial Product
- Use/Reuse - By-Product 1
- Use/Reuse - Sludge 3
- Use/Reuse - Sludge 8
- Use/Reuse - Spent Material 1
- Use/Reuse - Spent Material 2
- Use/Reuse - Spent Material 8

Substitute for Raw Material
- Energy Recovery - By-Product 1
- Energy Recovery - By-Product 2

Substrate
- Other - Non-Hazardous Secondary Material 8
- Reclamation - Spent Material 25

Sulfite
- Reclamation - By-Product 11
- Use/Reuse - Spent Material 1

Sulfur Dioxide
- Other - Spent Material 3

Sulfuric Acid
- Other - Non-Hazardous Secondary Material 8
- Other - Spent Material 1
- Other - Spent Material 3
- Other - Spent Material 4
- Reclamation - Spent Material 15
- Reclamation - Spent Material 16
- Reclamation - Spent Material 17
- Reclamation - Spent Material 25
- Use Constituting Disposal - Non-Hazardous Secondary Material 1
- Use Constituting Disposal - Spent Material 2
- Use/Reuse - Sludge 1
- Use/Reuse - Spent Material 7

Surface Finishing
- Other - Non-Hazardous Secondary Material 8
- Reclamation - Spent Material 25

Synthetic Rubber
- Other - Non-Secondary Material 11

TNT Production
- Use/Reuse - Spent Material 1

Tank House
- Use/Reuse - Sludge 4

Tetrachloroethylene
- Use/Reuse - By-Product 2

Thinner
- Other - Non-Secondary Material 3

Thinner, Adhesive
- Reclamation - Spent Material 27

Tin
- Other - Non-Secondary Material 18

Toluene
- Other - Non-Secondary Material 3
- Reclamation - Spent Material 5

Torpedo
- Other - Non-Secondary Material 1

Treatment
- Other - Non-Secondary Material 9
- Other - Non-Secondary Material 12
- Reclamation - Sludge 3
- Reclamation - Spent Material 4

Trivalent Chromium
- Other - Non-Hazardous Secondary Material 8
- Reclamation - Spent Material 25

Unreacted Raw Material
- Other - Non-Secondary Material 1

Unused Propulsion Fuel
- Other - Non-Secondary Material 1

Used Batteries
- Reclamation - Spent Material 3

Vanadium
- Reclamation - By-Product 11
- Reclamation - Spent Material 8

Vanadium Trichloride
- Reclamation - Spent Material 8

Veterinary Pharmaceuticals
- Reclamation - Spent Material 12

Volatile Materials
- Other - Non-Secondary Material 2
- Other - Non-Secondary Material 5
- Reclamation - By-Product 2

Washing
- Other - Non-Secondary Material 11

Waste-Derived Fuel
- Energy Recovery - Mixed Material 1

Wastewater
- Reclamation - Sludge 6

Wastewater Conditioner
- Other - Spent Material 4
- Use/Reuse - By-Product 1
- Use/Reuse - Spent Material 2

Wastewater Treatment
- Reclamation - Sludge 6
- Reclamation - Sludge 9

Wastewater Treatment Sludge
- Reclamation - Sludge 2
- Reclamation - Sludge 6
- Reclamation - Sludge 9
- Use Constituting Disposal - Sludge 6

Water Elutriator System
- Reclamation - Scrap Metal 1
- Reclamation - Scrap Metal 3

Water Fluoridating Agent
- Use/Reuse - Sludge 3

Wet Process Phosphoric Acid Production
- Use/Reuse - Spent Material 5

Wool Industry
- Reclamation - Spent Material 21

Ziegler Natta Polymerization Catalyst
- Reclamation - Spent Material 8

Zinc
- Other - Non-Hazardous Secondary Material 3
- Other - Non-Hazardous Secondary Material 4
- Other - Non-Secondary Material 7
- Other - Non-Secondary Material 14
- Reclamation - By-Product 1
- Reclamation - By-Product 11
- Reclamation - Sludge 5
- Reclamation - Sludge 7
- Reclamation - Sludge 8
- Reclamation - Sludge 10
- Reclamation - Sludge 11
- Reclamation - Spent Material 13
- Reclamation - Spent Material 23
- Use Constituting Disposal - Sludge 6

Zinc, continued
Use Constituting Disposal - Spent Material 1
Use/Reuse - Sludge 2

Zinc Electroplating
Other - Non-Secondary Material 14
Reclamation - Spent Material 23