THE TOXIC SUBSTANCES CONTROL ACT
Public Law 94-469

REPORTING FOR THE CHEMICAL SUBSTANCE INVENTORY

INSTRUCTIONS FOR REPORTING FOR THE INITIAL INVENTORY

DECEMBER 1977

U.S. Environmental Protection Agency
Office of Toxic Substances
Washington, D.C. 20460

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TABLE OF CONTENTS

Chapter I

THE CHEMICAL SUBSTANCE INVENTORY

The Toxic Substances Control Act (TSCA) requires the U.S. Environmental Protection Agency (EPA) to compile and publish an Inventory of chemical substances manufactured, imported, or processed in the United States for commercial purposes. To ensure a complete and reliable inventory, EPA has issued Inventory Reporting Regulations (40 CFR 710), as required by TSCA. These regulations govern reporting for the Inventory.

The Inventory will be compiled from reports which manufacturers, importers, processors, or users of chemical substances prepare and submit to EPA, in accordance with the regulations. Under a two-phase reporting schedule designed to minimize duplicative reporting, all such persons will have an opportunity to enter reportable chemical substances on the Inventory.

During an initial reporting period, ending May 1, 1978, some manufacturers and importers are required to report. Other manufacturers or importers, while not required to, may report or authorize another person to report on their behalf in order to be sure that the chemical substances they manufacture or import for a commercial purpose are included on the Inventory. For specific details, see Chapter III of this booklet describing who must report. Persons who have only processed or used a chemical substance, i.e., who have not manufactured or imported the substance, should NOT report the substance during the initial reporting period which ends May 1, 1978. Such persons will have an opportunity to report during a second reporting period. Some manufacturers and importers can also report after May 1. See Chapter IV of this booklet for a description of the conditions under which such reports may be submitted.

EPA will compile an Initial Inventory which will include those substances reported by manufacturers or importers, or by their duly-authorized agents during the initial reporting period. EPA expects that the Initial Inventory will be published some time near the end of 1978. Thirty days after its publication, the premanufacture notification provisons of TSCA, which requires notification to EPA at least 90 days in advance of manufacture or importation, will become effective for persons intending to manufacture or import (in bulk form) for a commercial purpose any chemical substance not identified on the Initial Inventory.

A second, 210-day reporting period will begin when EPA publishes the Initial Inventory. During this period, importers of chemical substances as part of mixtures or articles, and persons who have only processed or used, since January 1, 1975, a reportable chemical substance which did not appear on the Initial Inventory, may report such substance for inclusion in a Revised Inventory. This Revised Inventory will be published as soon as possible after the end of the second reporting period. Of course, EPA will add new chemical substances to the Inventory after they have satisfied the premanufacture notification provisions of Section 5 of TSCA.

Only nonconfidential chemical substance identities will appear on the Inventory. Generic names applied to chemical substance identities which are confidential will appear in an appendix to the Inventory. Neither the names of the manufacturers, importers, processors, or users who report chemical substances, nor production ranges or other reported information, will appear on the Inventory.

Chemical substances are often commercially distributed in products bearing trademarks or commercial names. In some cases, persons who process or use such products for commercial purposes do not know the product's chemical composition and will need assurance that the identity of all reportable chemical substances of which these products are comprised have been submitted to EPA for inclusion on the Inventory. During the initial reporting period, manufacturers and importers of such products will have the opportunity to report the trademarks or commercial names of their products on a separate form which permits listing of such names without accompanying information on product composition. In order to do so, however, they must certify that all reportable chemical substances comprising these products have been reported for the Inventory.

EPA will compile and publish a product trademark list from reports submitted by manufacturers and importers. This list will not be a part of the Inventory. During the second reporting period, this list will provide an easy means for processors and users to determine whether or not the chemical substances which comprise trademarked products have been reported for the Inventory.

Chapter II

CHEMICAL SUBSTANCES

The Inventory Reporting Regulations (40 CFR 710) govern reporting of certain substances for inclusion on the Inventory. Each substance reported must satisfy the following three criteria:

1. It must be a "chemical substance" as defined by section 710.2(h) of the regulations;

2. It must have been manufactured, imported, or processed for commercial purposes in the United States since January 1, 1975; and

3. It must not be excluded from the Inventory by any provision of section 710.4 of the regulations.

A "reportable chemical substance" is one which satisfies all of these criteria; a substance which fails to meet one or more of these criteria must not be reported for the Inventory.

This chapter discusses the three criteria. The first section of this chapter, Reportable Chemical Substances, presents and discusses the term "chemical substance" and the phrase "manufacture or import 'for commercial purposes.'" This section also describes how some particular classes of chemical substances, including polymers, should be identified for inclusion on the Inventory. The second section, Excluded Substances, presents and comments on some of the exclusions contained in section 710.4 of the regulations. These exclusions identify certain chemical substances which must not be reported for the Inventory.

IMPORTANT: Many terms used in the regulations and in this chapter (for example: "chemical substance," "mixture," "article," "intermediate," "manufacture," and "process") have very specific meanings and are defined in the regulations. To aid your understanding of this chapter, pertinent sections of the regulations to which you should refer for additional clarification are cited in square brackets, e.g. [710.2(h)].

"Appendix A: Significant Comments and Responses," which accompanies the regulations published in the December 23, 1977 FEDERAL REGISTER and begins on page 64580, discusses many aspects of the regulations in detail. Comments 29-82 are particularly relevant to the subjects discussed in this chapter. Pertinent Comments to which you should refer are cited in this chapter by their enclosure in braces, e.g., {73}.

Reportable Chemical Substances

Definition of "Chemical Substance"

The Toxic Substances Control Act (TSCA) identifies three types of materials: (1) chemical substances, (2) mixtures of chemical substances, and (3) articles comprised of chemical substances and/or mixtures. The Inventory will list only chemical substances. It will not list mixtures or articles. It will list, however, chemical substances of which mixtures and articles are comprised.

"Chemical substance" is defined in section 710.2(h) of the regulations by chemical composition, by source or origin, and by identification of certain categories of materials which are not considered "chemical substances":

> "Chemical substance" means any organic or inorganic substance of a particular molecular identity, including any combination of such substances occurring in whole or in part as a result of a chemical reaction or occurring in nature, and any chemical element or uncombined radical; except that "chemical substance" does not include:
>
> 1) any mixture [710.2(q)]{31-36}.
>
> 2) any pesticide when manufactured, processed, or distributed in commerce for use as a pesticide [710.2(b)] {37-39}.
>
> 3) tobacco or any tobacco product, but not including any derivative products,
>
> 4) any source material, special nuclear material, or byproduct material [710.2(c)],
>
> 5) any pistol, firearm, revolver, shells and cartridges, and
>
> 6) any food, food additive, drug, cosmetic or device, when manufactured, processed, or distributed in commerce for use as a food, food additive, drug, cosmetic, or device [710.2(a)] {37, 40-42}.

Composition: Except for its impurities [710.2(m)], a chemical substance may be comprised of a single organic or inorganic species, element, or free radical or a combination of such entities. Substances whose composition can be represented by definite chemical structure diagrams are denoted Class 1 substances. Examples of Class 1 substances are: acetone, iron, benzene, and sodium chloride. Substances which are combinations of different known or unknown species or whose composition cannot be represented by definite chemical structure diagrams are denoted Class 2 substances.

Examples of Class 2 substances are: crude oil, superphosphate (fertilizer), tall oil, and coconut oil acids. Therefore, a chemical substance may be a "pure" compound, but does not necessarily have to be. A chemical substance may be a complex combination comprised of known or unknown chemical species. (See Appendix 5 of this booklet for a specification of what must be reported to identify a Class 1 or Class 2 chemical substance in a manner suitable for including its identity on the Inventory.)

Source or Origin: Whether or not a material, and in particular a complex combination of species, is a "chemical substance" or "mixture" depends upon its source, origin, or method of preparation. The definition of "chemical substance" clearly identifies "any combination...occurring...in nature" as a "chemical substance." Therefore, any material extracted or removed from nature is a "chemical substance" and is, by definition, not a "mixture" [710.2(q)]. In addition, if such a material is further separated into component parts, each component, as separated, is a "chemical substance." Separating a naturally occurring material into component parts does not cause such a material to lose its status as a "chemical substance."

A combination which is produced by a chemical reaction calls for a common sense determination as to its status as a "chemical substance" [710.2(h)] or "mixture" [710.2 (q)] based on the following consideration:

> Could the combination have been prepared at this time for commercial purposes by combining commercially-available ingredients which do not chemically react when mixed?
>
> - If the answer is NO, the combination manufactured is a "chemical substance," and is subject to the Inventory Reporting Regulations.
>
> - If the answer is YES, the combination manufactured is a "mixture" of the chemical substances. Although the combination, in this case, must not be reported, the chemical substances which were in fact manufactured by the chemical reaction are subject to the regulations [See Note at 710.4 (c)(2)].
>
> EXAMPLE: If commercially-available chemical substances A, B, and C are mixed, without chemical reaction, a combination of A, B, and C is produced which is a "mixture." Alternatively, if that combination was prepared by mixing chemical substances A, B, D, and E, and D and E chemically reacted to form C, the combination (A, B, and C) is a "mixture." However, chemical substance C has been manufactured.

Materials Not Considered "Chemical Substances": The six categories of materials listed by number in the definition of "chemical substance" [710.2(h)] are not considered chemical substances. Any material identified in that list is not a "chemical substance" and must not be reported for the Inventory.

Definition of "Manufacture or Import 'For Commercial Purposes'"

The phrase "manufacture or import 'for commercial purposes'" is important for determining whether or not a manufactured or imported chemical substance is a reportable chemical substance. Section 710.2(p) of the regulations defines the phrase:

"Manufacture or import 'for commercial purposes'" means to manufacture or import:

1) For distribution in commerce [710.2(j)] including for test marketing purposes [710.2(bb)] {64-66}, or

2) For use by the manufacturer, including for use as an intermediate [710.2(n)] {67-71}.

Thus, the Inventory will be comprised of not only chemical substances not otherwise excluded by section 710.4 of the regulations, which have been manufactured or imported since January 1, 1975, for "distribution in commerce" but also of those which persons have manufactured for their own use, including use as an "intermediate".

Chemical substances, not otherwise excluded by section 710.4 of the regulations, may also be reported if they have been processed for commercial purposes [710.2(u)] since January 1, 1975. A special reporting period for processors will be provided after publication of an Initial Inventory, as noted in Chapter IV of this booklet.

"Special Case" Chemical Substances

1. Reporting Polymers

Section 710.5(c) of the regulations specifies how to identify polymers for inclusion on the Inventory:

1) To report a polymer, a person must list in the description of the polymer composition at least those monomers used at greater than two percent (by weight) in the manufacture of the polymer.

2) Those monomers used at two percent (by weight) or less in the manufacture of the polymer may be included as part of the description of the polymer composition.

NOTE.--The "percent (by weight)" of a monomer is the weight of the monomer charged expressed as a percentage of the weight of the polymeric chemical substance manufactured.

For example, if ten (10) pounds of one monomer is charged into a reactor, along with other reactive ingredients, and 100 pounds of "dry" weight copolymer is manufactured, the monomer was used at ten (10) percent (by weight) in the manufacture of the copolymer. The monomer, therefore, must be identified in the description of the copolymer. (See Appendix 5 of this booklet for additional information on how to identify polymeric chemical substances.)

Although monomers used at two percent (by weight) or less in the manufacture of a polymer are not required to be included as part of the description of the polymer, such monomers, like other "intermediates, are subject to the Inventory Reporting Regulations regardless of their end use in the manufacture of polymers.

The polymer description should identify only monomers and other reactive ingredients such as chain-transfer or crosslinking substances. Other additives, such as emulsifiers and plasticizers, which are not chemically a part of the polymeric composition should not be identified in the description of the polymer, and their weight should not be included in estimating the "dry" weight of the polymer.

2. Naturally Occurring Chemical Substances

Section 710.4(b) of the regulations defines a category of chemical substances, "Naturally Occurring Chemical Substances," which will appear on the Inventory. Persons who manufacture, import, or process chemical substances which are included within that category should not report such substances for inclusion on the Inventory because they are considered to be automatically included. The category includes:

> Any chemical substance which is naturally occurring and
>
> (1) which is (i) unprocessed or (ii) processed only by manual, mechanical, or gravitational means; by dissolution in water; by flotation; or by heating solely to remove water; or
>
> (2) which is extracted from air by any means.

o The category includes chemical substances which are derived from nature (including the land, water, atmosphere and life forms which naturally inhabit the earth) by the means specified.

3. Class 2 Chemical Substances Known Commercially by Class 1 Names

Some reportable Class 2 chemical substances, which are combinations of several different chemical species, are known in commerce by specific chemical names that identify a principal chemical species of the combination, for example, commercial "stearic acid."

Although the chemical name may incorrectly suggest that such a chemical substance is a Class 1 substance, in those cases where the name is actually used in commerce to identify the chemical substance, it may also be used to identify the chemical substance in reporting for the Inventory.

Chapter V of this booklet specifies the report forms to be used in reporting chemical substances for the Inventory. For chemical substances of the type described in this "special case", Report Form A may be used to report the substance if the identity of the principal species by which the chemical substance is known commercially appears on the TSCA Candidate List of Chemical Substances. If the identity of the principal species by which the chemical substance is known commercially is not on the Candidate List but has a known Chemical Abstracts Service (CAS) Registry Number, the chemical substance may be reported using Form B. Otherwise, the chemical substance must be reported using Form C and be identified according to the procedures specified in Appendix 5 of this booklet for reporting Class 2 chemical substances.

4. Chemical Substances Which Are Fractionated Into Component Chemical Substances

Some Class 2 chemical substances are complex combinations of different chemical species and are fractionated, in whole or in part, into component chemical substances (fractions). In this "special case," the unfractionated chemical substance need not be reported for the Inventory if it is completely separated by its manufacturer into its fractions, and each fraction which is manufactured for commercial purposes is reported instead. On the other hand, the unfractionated chemical substance should be reported along with the relevant production range (if reported) for that amount which is not fractionated.

Excluded Substances

Some materials which are "chemical substances" [710.2(h)] and which have been manufactured, imported, or processed for commerical purposes since January 1, 1975, are excluded from the Inventory, and must not be reported. A chemical substance is excluded if it is, or has been:

1. Manufactured, imported, or processed solely in small quantities for research and development [710.4(c)(3), 710.2(y)] {29, 43-51}.

o The NOTE appearing at section 710.2(y) of the regulations states that any chemical substance which is manufactured, imported, or processed in quantities of less than 1,000 pounds annually is presumed to be an R&D chemical substance. Such a chemical substance can be reported for the Inventory, however, if the manufacturer, importer, or processor can certify that the chemical substance was not manufactured, imported, or processed solely in "small quantities for research and development."

2. An impurity [710.2(m)], 710.4(d)(1)] {61}.

o By this exclusion, impurities are not reportable, and, furthermore, no chemical substance which is reported for the Inventory should be identified in terms of its impurities, or by its commercial grades.

3. A byproduct [710.2(q)] which has no commercial purpose.

NOTE.--A byproduct which has commercial value only to municipal or private organizations who (i) burn it as a fuel, (ii) dispose of it as a waste, including in a landfill or for enriching soil, or (iii) extract component chemical substances which have commercial value, may be reported for the Inventory, but will not be subject to premanufacturing notification under section 5 of TSCA if not included [710.4(d)(2)] {52-55}.

o Byproducts which have commercial value for reasons other than those specified in the NOTE are not excluded from the Inventory [see 710.2(p)].

4. A chemical substance which results from a chemical reaction that occurs incidental to exposure of another chemical substance, mixture, or article to environmental factors such as air, moisture, microbial organisms, or sunlight [710.4(d)(3)].

o Chemical substances, such as rust on iron, or other corrosion or degradation products, which form incidental to environmental exposure are excluded from the Inventory.

5. A chemical substance which results from a chemical reaction that occurs incidental to storage of another chemical substance, mixture, or article [710.4(d)(4)].

o Degradation products which form incidental to the storage of a chemical substance, such as the partial polymerization of a drying oil, are excluded from the Inventory.

6. A chemical substance which results from a chemical reaction that occurs upon end use of other chemical substances, mixtures, or articles such as adhesives, paints, miscellaneous cleansers or other housekeeping products, fuels and fuel additives, water softening and treatment agents, photographic films, batteries, matches, and safety flares, and which is not itself manufactured for distribution in commerce or for use as an intermediate [710.4(d)(5)].

o Chemical substances which are the components of adhesives, paints, miscellaneous cleansers, etc. are not excluded from the Inventory by this provision; only the chemical substances which form upon their end use are excluded.

7. A chemical substance which results from a chemical reaction that occurs upon use of curable plastic or rubber molding compounds, inks, drying oils, metal finishing compounds, adhesives, or paints; or other chemical substances formed during manufacture of an article destined for the marketplace without further chemical change of the chemical substances except for those chemical changes that may occur as described in section 710.4(d) of the regulations [710.4(d)(6)].

o Chemical substances which are the components of curable plastic or rubber molding compounds, inks, etc. are not excluded from the Inventory by this provision; only the chemical substances which are formed upon the use of such materials are excluded.

8. A chemical substance which results from a chemical reaction that occurs when (i) a stabilizer, colorant, odorant, antioxidant, filler, solvent, carrier, surfactant, plasticizer, corrosion inhibitor, antifoamer or defoamer, dispersant, precipitation inhibitor, binder, emulsifier, demulsifier, dewatering agent, agglomerating agent, adhesion promoter, flow modifier, pH neutralizer, sequesterant, coagulant, flocculant, fire retardant, lubricant, chelating agent, or quality control reagent functions as intended or (ii) a chemical substance, solely intended to impart a specific physico-chemical characteristic, functions as intended [710.4(d)(7)].

o The substances which comprise the various materials listed above are not excluded from the Inventory; only the chemical substances which are formed upon use of such materials are excluded.

9. A chemical substance which is not intentionally removed from the equipment in which it was manufactured.
NOTE.--The "equipment in which it was manufactured" includes the reaction vessel in which the chemical substance was manufactured and other equipment which is strictly ancillary to the reaction vessel, and any other equipment through which the chemical substance may flow during a continuous flow process, but does not include tanks or other vessels in which the chemical substance is stored after its manufacture [710.4(d)(8), 710.2(n)] {67-71}.

Chapter III

REPORTING FOR THE INITIAL INVENTORY

How To Determine Who Must Report and What Must Be Reported for the Initial Inventory

The Inventory Reporting Regulations require certain manufacturers and importers of chemical substances to report for the Initial Inventory, and permit optional reporting by others. This chapter can help you determine:

- o whether or not you are required to report for the Initial Inventory;
- o what information must be reported; and
- o what information may be reported voluntarily.

Section 710.3(a) of the regulations specify who is required to report for the Initial Inventory and what they must report. Specifically, a manufacturer whose plant site meets the following criteria must report all chemical substances manufactured for commercial purposes in 1977 at the plant site if:

1. thirty percent or more by net weight of the products distributed from the plant site during calendar year 1977 were products within SIC groups 28 (Chemicals and Allied Products) or 2911 (Petroleum Refining Products), or
2. the total pounds of reportable chemical substances manufactured at the plant site during calendar year 1977 equaled one million or more pounds.

In addition, manufacturers must report any chemical substance not reported under (1) or (2) that was manufactured for commercial purposes in quantities of 100,000 pounds or greater at a plant site during calendar year 1977.

The reporting requirements for importers of chemical substances in bulk form are parallel to these, except importers do not report by plant site.

Decision Flow-Charts

This chapter contains two decision flow-charts which should help you to determine your reporting requirements. One is for use by domestic manufacturers and the other by importers. Some terms have been defined specifically for use in these decision flow-charts. These terms are fully capitalized and are defined in the glossaries which appear with each chart.

For each chart there are four steps to follow. At each step you are asked a question, to which you would respond either YES or NO. These questions are based upon the same criteria for determining reporting requirements as those contained in the regulations.

As you progress from step to step, follow the arrow leading from one answer to the next question. Eventually, the arrow will lead to a numbered group of reporting requirements. On the pages following the chart, locate this specific group of reporting requirements to determine what information you must report.

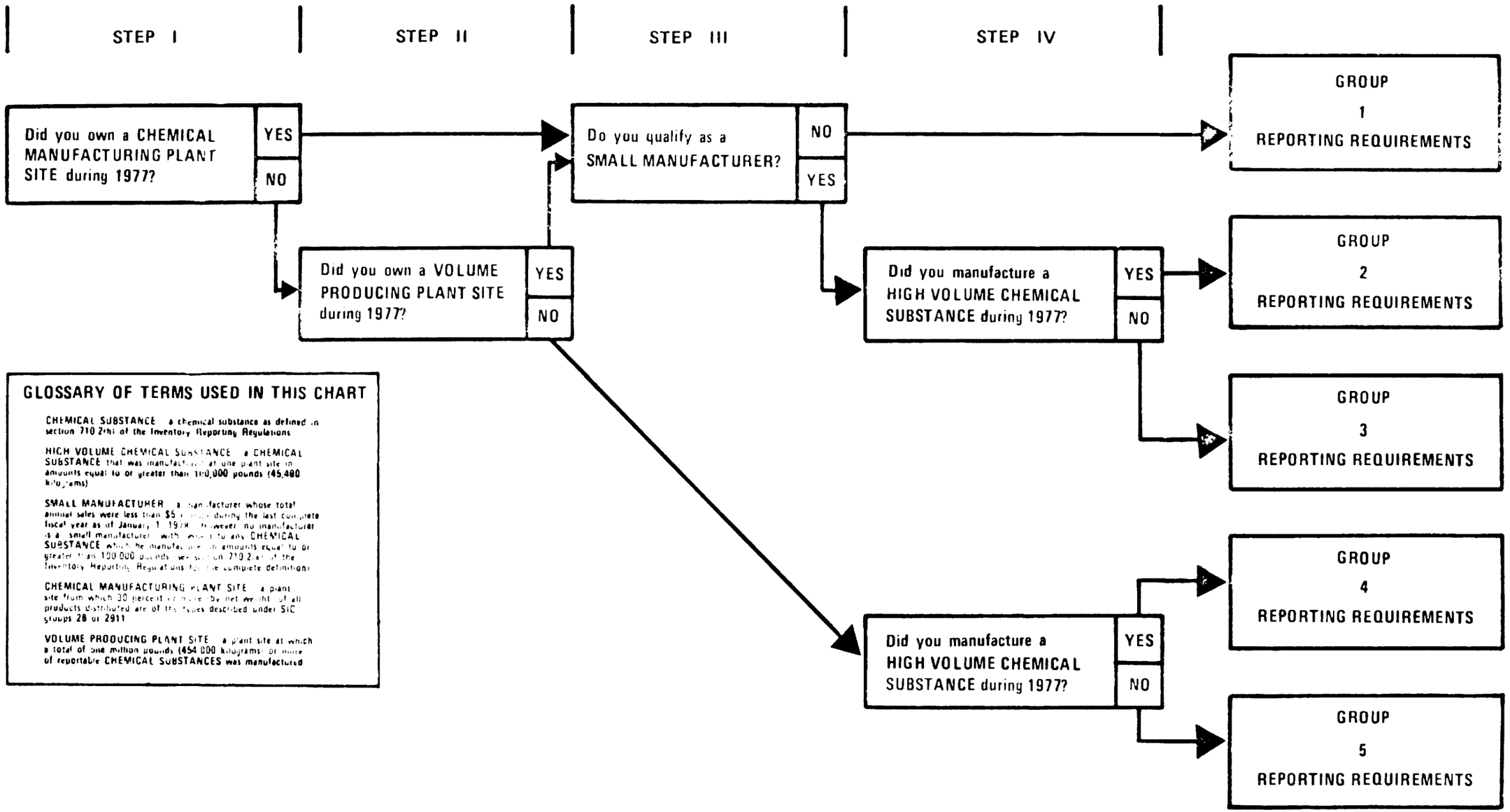
Separate flow-charts are provided for domestic manufacturers and importers. Although the reporting requirements for domestic manufacturers and importers are similar, it is important to use the flow-chart appropriate to each activity. If you both manufactured and imported chemical substances, you should use the flow-chart appropriate to each activity separately to determine your particular reporting requirements. For example, suppose Company X is a manufacturing and importing company whose total annual sales exceeded $5 million in 1977. Company X owns only one CHEMICAL MANUFACTURING PLANT SITE, and does not qualify as either a CHEMICAL IMPORTER or VOLUME IMPORTER. However, Company X imported, in bulk form, ten chemical substances in 1977, three of which were imported in amounts greater than 100,000 pounds. By referring to the flow-chart for domestic manufacturers, Company X determines that it must report according to the Group 1 Reporting Requirements. Therefore, it reports concerning all chemical substances manufactured for commerial purposes in 1977 at its CHEMICAL MANUFACTURING PLANT SITE. Because the company did not qualify as a CHEMICAL IMPORTER or VOLUME IMPORTER, but did import three HIGH VOLUME CHEMICAL SUBSTANCES, it determines, by referring to the decision flow-chart for importers, that it is also subject to Group 9 Reporting Requirements and, therefore, reports as required concerning the three HIGH VOLUME CHEMICAL SUBSTANCES it imported in 1977. After referring to the "Optional Reporting Provisions," Company X determines it will exercise its option, and reports concerning the seven other chemical substances it imported in bulk form so as to ensure their inclusion on the Initial Inventory.

If you determine that you are not required to report any information under these regulations (Group 5 for manufacturers and Group 10 for importers), you are encouraged to read the section entitled "Optional Reporting Provisions," and report if necessary to ensure that the chemical substances you manufactured or imported are included on the Inventory.

Reporting by Plant Site, Headquarters, or Business Address:

The group reporting requirements specify whether required chemical substance reporting is to be done by plant site, headquarters, or business address. Reporting by plant site means that a chemical substance is reported for the Inventory on a report form which identifies its site of manufacture. By contrast, reporting by corporate headquarters or by business address means that a chemical substance is reported on a report form which identifies the name and address of the business which is responsible for the manufacture or importation of the substance. Reporting of imported chemical substances will be done by the business address of the importer. Although EPA encourages all domestic manufacturers to report by plant site, manufacturers who optionally report chemical substances they manufacture, or who qualify as small manufacturers may report by corporate headquarters. However, no person is a small manufacturer with respect to a chemical substance which he or she manufactured in amounts equal to or greater than 100,000 pounds at one plant site during 1977, and therefore must report that substance by plant site.

DECISION FLOW—CHART TO DETERMINE REPORTING REQUIREMENTS FOR DOMESTIC MANUFACTURERS OF CHEMICAL SUBSTANCES



GLOSSARY OF TERMS USED IN THIS CHART

CHEMICAL SUBSTANCE a chemical substance as defined in section 710.2(hi) of the Inventory Reporting Regulations

HIGH VOLUME CHEMICAL SUBSTANCE a CHEMICAL SUBSTANCE that was manufactured at one plant site in amounts equal to or greater than 1[illegible],000 pounds (45,400 kilograms)

SMALL MANUFACTURER a manufacturer whose total annual sales were less than $5 [illegible] during the last complete fiscal year as of January 1, 197[illegible] However, no manufacturer is a small manufacturer with respect to any CHEMICAL SUBSTANCE which he manufactures in amounts equal to or greater than 100,000 pounds (see section 710.2(a) of the Inventory Reporting Regulations for the complete definition)

CHEMICAL MANUFACTURING PLANT SITE a plant site from which 30 percent or more (by net weight) of all products distributed are of the types described under SIC groups 28 or 2911

VOLUME PRODUCING PLANT SITE a plant site at which a total of one million pounds (454,000 kilograms) or more of reportable CHEMICAL SUBSTANCES was manufactured

DECISION FLOW-CHART TO DETERMINE REPORTING REQUIREMENTS FOR DOMESTIC MANUFACTURERS OF CHEMICAL SUBSTANCES

Step I: Did you own a CHEMICAL MANUFACTURING PLANT SITE during 1977?

CHEMICAL MANUFACTURING PLANT SITE means a plant site from which 30 percent or more (by net weight) of all products distributed are of the types described under Standard Industrial Classification (SIC) groups 28 or 2911 (see Appendix 2).

Although these SIC groups include categories of products, such as pesticides and drugs, which are specifically excluded from the Inventory, these products should be included in determining whether or not a plant site is a CHEMICAL MANUFACTURING PLANT SITE. The regulations, however, do not permit you to report excluded chemical substances, i.e., substances excluded from the Inventory by section 710.4 of the regulations.

Step II: Did you own a VOLUME PRODUCING PLANT SITE during 1977?

VOLUME PRODUCING PLANT SITE means a plant site at which a total of one (1) million pounds (454,000 kilograms) or more of reportable chemical substances was manufactured.

This criteria should be used completely independently of that considered in Step I. A substance may be a reportable chemical substance whether or not it is listed under SIC groups 28 or 2911. Section 710.4 of the regulations specifies and chapter II of this booklet discusses what is a reportable chemical substance.

Step III: Do you qualify as a SMALL MANUFACTURER?

SMALL MANUFACTURER, as defined in Section 710.2(x) of the regulations, means a manufacturer whose total annual sales are less than $5 million based upon the manufacturer's latest complete fiscal year as of January 1, 1978. However, no manufacturer is a "small manufacturer" with respect to any chemical substance which such person manufactured in 1977 at one site in amounts equal to or greater than 100,000 pounds (45,400 kilograms).

Calculations for the $5 million criterion should be based upon the total sales of all products, whether or not they are chemical substances. In the case of a company which is owned or controlled by another company, the $5 million criterion applies to the total annual sales of the owned or controlled company, the parent company, and all companies owned or controlled by the parent company taken together.

Step IV: Did you manufacture a HIGH VOLUME CHEMICAL SUBSTANCE during 1977?

HIGH VOLUME CHEMICAL SUBSTANCE means any chemical substance that was manufactured at one plant site in amounts equal to or greater than 100,000 pounds (45,400 kilograms).

GROUP 1 REPORTING REQUIREMENTS

Report by Plant Site:

a. Identity: Report the identity of each reportable CHEMICAL SUBSTANCE you manufactured during 1977 at each CHEMICAL MANUFACTURING and/or VOLUME PRODUCING PLANT SITE. Also report the identity of each HIGH VOLUME CHEMICAL SUBSTANCE manufactured at any other plant site in 1977. (Separate reports must be submitted for each plant site.)

b. Production Range: Report the 1977 production range of manufacture for each CHEMICAL SUBSTANCE reported under (a).

c. Activity: Report that you manufactured each CHEMICAL SUBSTANCE reported under (a).

d. Site-Limited: Report "site-limited" for each CHEMICAL SUBSTANCE reported under (a) which was manufactured and processed only within a plant site and was not distributed for commercial purposes as a substance or as part of a mixture or article outside the plant site.

See page 26 , "Optional Reporting Provisions," if you wish to report other chemical substances for the Inventory.

GROUP 2 REPORTING REQUIREMENTS

Report by Plant Site:

a. Identity: Report the identity of each reportable HIGH VOLUME CHEMICAL SUBSTANCE you manufactured during 1977. (Separate reports must be submitted for each plant site.)

b. Production Range: Report the 1977 production range of manufacture for each CHEMICAL SUBSTANCE reported under (a).

c. Activity: Report that you manufactured each CHEMICAL SUBSTANCE reported under (a).

d. Site-Limited: Report "site-limited" for each CHEMICAL SUBSTANCE reported under (a) which was manufactured and processed only within a plant site and was not distributed for commercial purposes as a substance or as part of a mixture or article outside the plant site.

Report by Headquarters:

e. Identity: Report the identity of each reportable CHEMICAL SUBSTANCE, other than a HIGH VOLUME CHEMICAL SUBSTANCE, you manufactured during 1977 at each CHEMICAL MANUFACTURING and/or VOLUME PRODUCING PLANT SITE. (You may submit one report, or separate reports for each plant site. Although it is not mandatory that you report by plant site, EPA encourages you to do so.)

f. Activity: Report that you manufactured each CHEMICAL SUBSTANCE reported under (e).

g. Site-Limited: Report "site-limited" for each CHEMICAL SUBSTANCE reported under (e) which was manufactured and processed only within a plant site and was not distributed for commercial purposes as a substance or as part of a mixture or article outside the plant site.

Although it is not mandatory, EPA encourages you also to report:

h. Production Range: Report the 1977 production range of manufacture for each CHEMICAL SUBSTANCE reported under (e).

See page 26 , "Optional Reporting Provisions," if you wish to report other chemical substances for the Inventory.

GROUP 3 REPORTING REQUIREMENTS

Report by Headquarters:

a. Identity: Report the identity of each reportable CHEMICAL SUBSTANCE you manufactured during 1977 at each CHEMICAL MANUFACTURING and/or VOLUME PRODUCING PLANT SITE.

b. Activity: Report that you manufactured each CHEMICAL SUBSTANCE reported under (a).

c. Site-Limited: Report "site-limited" for each CHEMICAL SUBSTANCE reported under (a) which was manufactured and processed only within a plant site and was not distributed for commercial purposes as a substance or as part of a mixture or article outside the plant site.

Although it is not mandatory, EPA encourages you to report by plant site, and to report in addition:

d. Production Range: Report the 1977 production range of manufacture for each CHEMICAL SUBSTANCE reported under (a).

See page 26 , "Optional Reporting Provisions," if you wish to report other chemical substances for the Inventory.

GROUP 4 REPORTING REQUIREMENTS

Report by Plant Site:

a. Identity: Report the identity of each reportable HIGH VOLUME CHEMICAL SUBSTANCE you manufactured during 1977. (Separate reports must be submitted for each plant site.)

b. Production Range: Report the 1977 production range of manufacture for each CHEMICAL SUBSTANCE reported under (a).

c. Activity: Report that you manufactured each CHEMICAL SUBSTANCE reported under (a).

d. Site-Limited: Report "site-limited" for each CHEMICAL SUBSTANCE reported under (a) which was manufactured and processed only within a plant site and was not distributed for commercial purposes as a chemical substance or as part of a mixture or article outside the plant site.

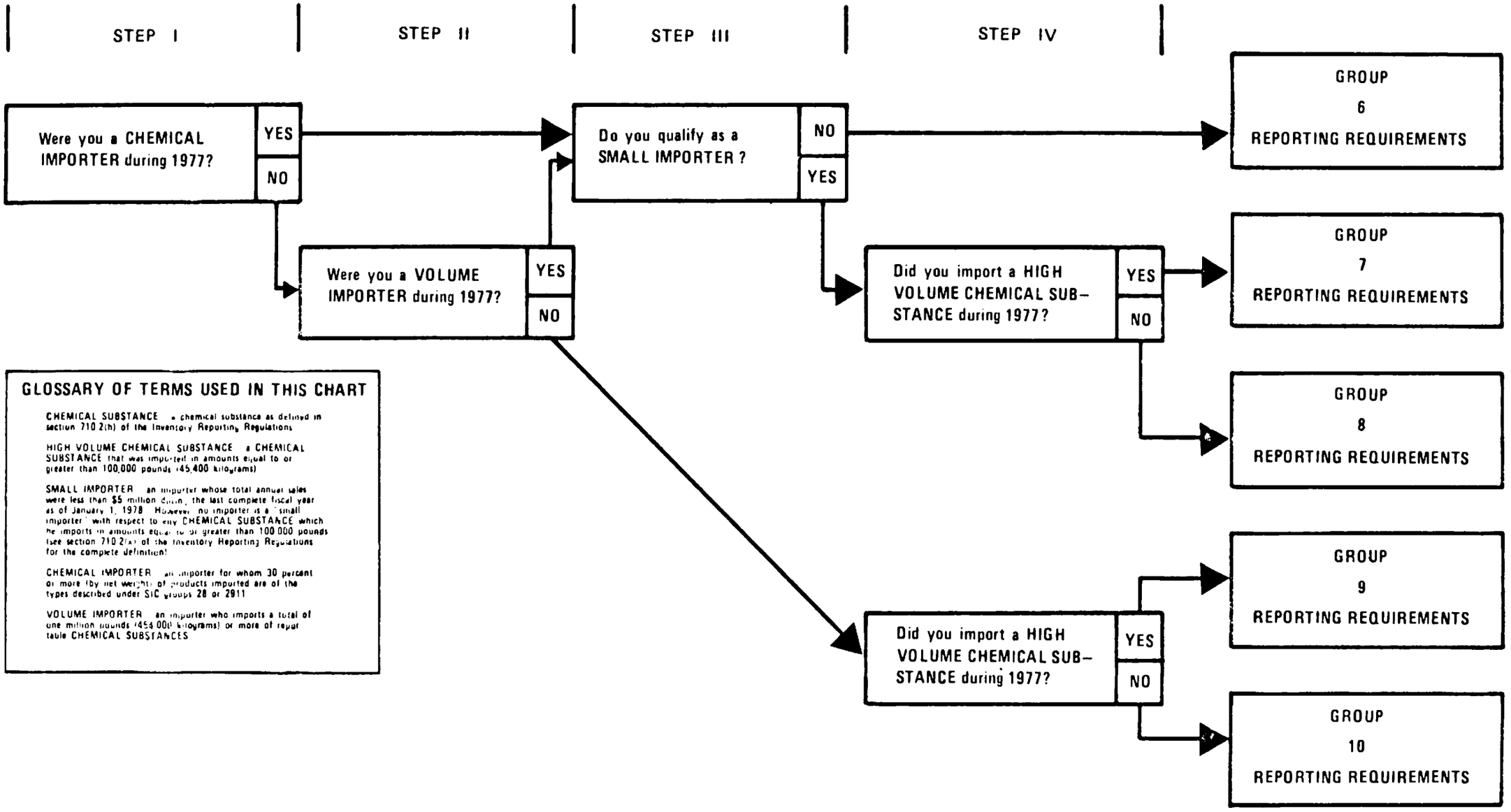
See page 26, "Optional Reporting Provisions," if you wish to report other chemical substances for the Inventory.

GROUP 5 REPORTING REQUIREMENTS

You are not required to report for the Inventory under the regulations.

However, if you manufactured a chemical substance since January 1, 1975, and wish to ensure its inclusion on the Inventory, see page 26 , "Optional Reporting Provisions."

DECISION FLOW—CHART TO DETERMINE REPORTING REQUIREMENTS FOR IMPORTERS OF CHEMICAL SUBSTANCES



GLOSSARY OF TERMS USED IN THIS CHART

CHEMICAL SUBSTANCE - a chemical substance as defined in section 710.2(h) of the Inventory Reporting Regulations

HIGH VOLUME CHEMICAL SUBSTANCE - a CHEMICAL SUBSTANCE that was imported in amounts equal to or greater than 100,000 pounds (45,400 kilograms)

SMALL IMPORTER - an importer whose total annual sales were less than $5 million dollars, the last complete fiscal year as of January 1, 1978. However, no importer is a "small importer" with respect to any CHEMICAL SUBSTANCE which he imports in amounts equal to or greater than 100,000 pounds (see section 710.2(a) of the Inventory Reporting Regulations for the complete definition)

CHEMICAL IMPORTER - an importer for whom 30 percent or more (by net weight) of products imported are of the types described under SIC groups 28 or 2911

VOLUME IMPORTER - an importer who imports a total of one million pounds (454,000 kilograms) or more of reportable CHEMICAL SUBSTANCES

DECISION FLOWCHART TO DETERMINE REPORTING REQUIREMENTS FOR IMPORTERS OF CHEMICAL SUBSTANCES (IN BULK FORM)

Step I: Were you a CHEMICAL IMPORTER during 1977?

A CHEMICAL IMPORTER is an importer for whom 30 percent or more (by net weight) of products imported consists of products of the types described under Standard Industrial Classification (SIC) groups 28 or 2911. (See Appendix 2.)

Although these SIC groups include categories of products, such as pesticides and drugs, which are specifically excluded from the inventory, these products should be included in determining whether or not an importer is a CHEMICAL IMPORTER. The regulations, however, do not permit you to report excluded chemical substances, i.e., substances excluded from the Inventory by section 710.4 of the regulations.

Step II: Were you a VOLUME IMPORTER during 1977?

A VOLUME IMPORTER is an importer who imports a total of one million pounds (454,000 kilograms) or more of reportable chemical substances.

This criterion should be used completely independently of that considered in Step I. A substance may be a reportable chemical substance whether or not it is listed under SIC groups 28 or 2911. Section 710.4 of the regulations specifies and chapter II of this booklet discusses what is a reportable chemical substance.

Step III: Do you qualify as a SMALL IMPORTER?

SMALL IMPORTER, as defined in Section 710.2(x) of the regulations, is an importer whose total annual sales are less than $5 million based on the importer's latest complete fiscal year as of January 1, 1978. However, no importer is a "small importer" with respect to chemical substances which such person imported in amounts equal to or greater than 100,000 pounds (45,400 kilograms).

Calculations for the $5 million criterion should be based upon the total sales of all products, whether or not they are chemical substances. In the case of a company which is owned or controlled by another company, the $5 million criterion applies to the total annual sales of the owned or controlled company, the parent company, and all companies owned or controlled by the parent company taken together.

Step IV: Did you import a HIGH VOLUME CHEMICAL SUBSTANCE during 1977?

HIGH VOLUME CHEMICAL SUBSTANCE means any chemical substance that was imported in bulk form by a company in amounts equal to or greater than 100,000 pounds (45,400 kilograms).

GROUP 6 REPORTING REQUIREMENTS

Report by Business Address:

a. Identity: Report the identity of each reportable CHEMICAL SUBSTANCE, including HIGH VOLUME CHEMICAL SUBSTANCES, you imported in bulk form during 1977.

b. Production Range: Report the 1977 production range of importation for each CHEMICAL SUBSTANCE reported under (a).

c. Activity: Report that you imported each CHEMICAL SUBSTANCE reported under (a).

See page 26, "Optional Reporting Provisions," if you wish to report other chemical substances for the Inventory.

GROUP 7 REPORTING REQUIREMENTS

Report by Business Address:

a. Identity: Report the identity of each reportable HIGH VOLUME CHEMICAL SUBSTANCE you imported in bulk form during 1977.

b. Production Range: Report the 1977 production range of importation for each CHEMICAL SUBSTANCE reported under (a).

c. Activity: Report that you imported each CHEMICAL SUBSTANCE reported under (a).

Also report by Business Address:

d. Identity: Report the identity of each reportable CHEMICAL SUBSTANCE, other than a HIGH VOLUME CHEMICAL SUBSTANCE, you imported in bulk form during 1977.

e. Activity: Report that you imported each CHEMICAL SUBSTANCE reported under (d).

Although it is not mandatory, EPA encourages you to report, in addition:

f. Production Range: Report the 1977 production range of importation for each CHEMICAL SUBSTANCE reported under (d).

See page 26 , "Optional Reporting Provisions," if you wish to report other chemical substances for the Inventory.

GROUP 8 REPORTING REQUIREMENTS

Report by Business Address:

a. Identity: Report the identity of each reportable CHEMICAL SUBSTANCE you imported in bulk form during 1977.

b. Activity: Report that you imported each CHEMICAL SUBSTANCE reported under (a).

Although it is not mandatory, EPA encourages you to report, in addition:

c. Production Range: Report the 1977 production range of importation for each CHEMICAL SUBSTANCE reported under (a).

See page 26 , "Optional Reporting Provisions," if you wish to report other chemical substances for the Inventory.

GROUP 9 REPORTING REQUIREMENTS

Report by Business Address:

a. Identity: Report the identity of each reportable HIGH VOLUME CHEMICAL SUBSTANCE you imported in bulk form during 1977.

b. Production Range: Report the 1977 production range of importation for each CHEMICAL SUBSTANCE reported under (a).

c. Activity: Report that you imported each CHEMICAL SUBSTANCE reported under (a).

See page 26 , "Optional Reporting Provisions," if you wish to report other chemical substances for the Inventory.

GROUP 10 REPORTING REQUIREMENT

You are not required to report for the Inventory under the regulations.

However, if you imported a reportable chemical substance (including a chemical substance as part of a mixture or article) since January 1, 1975, and wish to ensure its inclusion on the Inventory, see page 26 , "Optional Reporting Provisions."

OPTIONAL REPORTING PROVISIONS

In order to ensure that a CHEMICAL SUBSTANCE(s) is included on the Inventory, any person who has manufactured or imported a reportable CHEMICAL SUBSTANCE(s) (including the importation of a CHEMICAL SUBSTANCE as part of a mixture or an article) for a commercial purpose since January 1, 1975, may report concerning that CHEMICAL SUBSTANCE for the Initial Inventory during the initial reporting period. This includes CHEMICAL SUBSTANCES manufactured or imported for the first time after December 31, 1977 (see chapter IV).

For each CHEMICAL SUBSTANCE that you report under these provisions, you must report:

a. the identity of the CHEMICAL SUBSTANCE,

b. your activity (manufacture and/or import)with respect to the CHEMICAL SUBSTANCE, and

c. for domestic manufacturers, site-limited for each CHEMICAL SUBSTANCE you manufactured and processed at a plant site and did not distribute for commercial purposes as a chemical substance or as part of a mixture or article outside the plant site.

In addition, EPA encourages manufacturers to report by plant site, and encourages both manufacturers and importers to report:

d. the 1977 Production Range for each CHEMICAL SUBSTANCE reported under these provisions.

Under these provisions you may either:

- submit your own report; or
- authorize a trade association or other agent to report on your behalf.

Chapter IV

WHEN TO REPORT
Section 710.6

Initial Reporting Period: Manufacturers and importers of chemical substances may report for the Initial Inventory until May 1, 1978. Chemical substances reported by persons who only process and use such substances for commercial purposes will not be included on the Initial Inventory.

Reporting of Chemical Substances Manufactured or Imported (in Bulk Form) for the First Time Between May 1, 1978 and the Effective Date of Premanufacture Notification Requirements: Premanufacture notification requirements for manufacturers of chemical substances and importers of chemical substances in bulk form will become effective 30 days after publication of the Initial Inventory. Any reportable chemical substance manufactured or imported for the first time prior to the effective date of premanufacture notification requirements is eligible for inclusion on the Inventory and will not be subject to premanufacture notification requirements if it is reported on Form A, B, or C as soon as manufacture or import begins.

Reporting Period for Revised Inventory: Persons who only process or use chemical substances for commercial purposes may report during a special 210-day reporting period which will begin on the date of publication of the Initial Inventory. Processors and users are not required to report. They are, however, permitted to report any chemical substance which they processed or used for commercial purposes.

> IMPORTANT: In order to avoid unnecessarily duplicative reporting, processors and users should not report any chemical substance which appears on the Initial Inventory. Processors and users should search the Initial Inventory and the TSCA Product Trademark List (which will be published in conjunction with the Initial Inventory) for the chemical substances (or products) they process or use, before reporting any chemical substance.

Special Reporting Rules for Importers of Chemical Substances as Part of Mixtures or Articles: Importers of chemical substances as part of mixtures or articles may report either during the initial reporting period, ending May 1, 1978, or during the 210-day reporting period for the Revised Inventory. Premanufacture notification requirements

for importers of chemical substances as part of mixtures will begin 30 days after publication of the Revised Inventory. See Comment 21 in Appendix A to the Inventory Reporting Regulations, as published in the FEDERAL REGISTER, for discussion of premanufacture notification requirements which may apply to importers of chemical substances as part of articles [42 FR 64582].

IMPORTANT DATES

End of reporting period for for manufacturers, and importers of chemical substances in bulk form	May 1, 1978
Publication of the Initial Inventory	Near the end of 1978
Beginning of premanufacture notification requirements for manufacturers, and importers of chemical substances in bulk form	30 days after publication of the Initial Inventory
Reporting period for processors, users, and some importers	A 210-day period starting with the date of publication of the Initial Inventory
Beginning of premanufacture notification for some importers. Enforcement of TSCA as to processors and users of chemical substances not on the Inventory.	30 days after publication of the Revised Inventory

Chapter V

GENERAL INFORMATION ON REPORTING FOR THE INITIAL INVENTORY

The Report Forms

There are four different kinds of Initial Inventory report forms, identified as Forms A, B, C, and D. It is important that you use the appropriate form to report chemical substances for the Initial Inventory. Different forms will be provided by EPA at a later date for use in submitting reports for the Revised Inventory.

Form A

Use Form A only to report chemical substances which appear in the "Toxic Substances Control Act Candidate List of Chemical Substances" or any addendum to that list for which a notice of availability is published in the FEDERAL REGISTER.

All chemical substances appearing on the Candidate List and addenda have Chemical Abstracts Service (CAS) Registry Numbers and valid EPA Code Designations. (See Appendix 3, "Guide to the Use of the TSCA Candidate List of Chemical Substances.")

As many as 26 chemical substances can be reported on each Form A.

Form B

Use Form B only to report chemical substances with known CAS Registry Numbers which do not appear in the TSCA Candidate List of Chemical Substances.

As many as ten chemical substances can be reported on each Form B.

Form C

Form C must be used to report chemical substances which have no known CAS Registry Numbers, and to report chemical substances whose identities for purposes of the Inventory are claimed confidential. Also, importers who are assisted in reporting by foreign suppliers must use Form C for each chemical substance they jointly report.

Only one chemical substance can be reported on each Form C.

Form D

Form D is a voluntary, supplemental form and cannot be used to report chemical substances for the Inventory. It does not replace Forms A, B, or C. Use Form D if you are a manufacturer or importer and wish to ensure persons who process or use your products for commercial purposes that all reportable chemical substances contained in these products have been reported for the Inventory. Product trademarks will not be included on the Inventory. EPA will publish a separate document, along with the Initial Inventory, that will list those product trademarks reported.

The sole purpose of Form D is to provide a means for you to assure processors and users of your products during the second 210-day reporting period that they may continue to process or use them without notifying EPA. No purpose is served by reporting trademarked products which are not processed or used for commercial purposes after distribution in commerce.

In order to report a product trademark on Form D, you must certify that, to the best of your knowledge and belief, all reportable chemical substances which are part of the trademarked product have been reported for the Inventory by you or someone else. Trademarked products which may be reported on Form D include chemical substances, mixtures, or articles.

Tips on Filling Out the Report Forms

o Carefully read the Inventory Reporting Regulations and this instruction booklet, including the appendices, before attempting to fill out the forms.

o Be sure to use the appropriate Inventory Report Form to report each chemical substance.

o Type or print legibly using a black ball point pen -- press firmly to ensure that the carbon copies are legible.

o If you make a mistake on a line, cross out the entry and start over on the next line.

o Be sure that the appropriate person signs the certification statement(s) on each form.

o Use only official TSCA Chemical Substances Inventory Report Forms. Chemical substances reported in letter form or on unofficial duplicates of the official report forms will not be processed by EPA in compiling the Inventory. However, chemical substances may be reported by computer tape (see How to Report by Computer Tape, appearing later in the chapter). EPA will provide additional copies of Forms A, B, C, or D upon request (see How to Get Additional Copies of Report Forms).

o Retain the third copy of each form, marked "Submitting Company Copy", for your records.

o Mail the remaining copies of each form and the attached postcard to:

U.S. Environmental Protection Agency
Office of Toxic Substances
P.O. Box 02201
Columbus, Ohio 43202

o EPA will acknowledge receipt of each form by returning the postcard which is attached to each form to the addressee identified in Block III of each form. The first line of the address (the line directly under the plant site, headquarters, or business name) may be used to enter the name of the person or office to which the card should be sent.

How to Get Additional Copies of Report Forms

Before you order additional report forms, estimate how many copies of each form you will need.

1. All EPA Regional offices have an ample supply of Forms A, B, C, and D. You should arrange to pick up these forms at a Regional Office (see page 34 for addresses) as Regional offices are not equipped to fill mail orders.

2. You may order report forms by phone from the EPA's Office of Industry Assistance at (800) 424-9065. Allow two (2) weeks for delivery.

How to Get a Copy of the TSCA Candidate List of Chemical Substances

o EPA will make available one free copy of the Candidate List to any interested organization or individual as long as supplies last. A request for either a printed or microfiche copy should be sent to:

Candidate List, OTS (TS-799)
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC, 20460.

o Both printed and microfiche copies may be picked up in person at all EPA regional offices. See page 34 for addresses.

o The free copy of the Candidate List may be ordered by telephone by calling (800) 424-9065, EPA's Office of Industry Assistance. Allow two (2) weeks for delivery.

o Additional printed copies may be obtained by written request from:

Superintendent of Documents
Government Printing Office (GPO)
Washington, DC, 20402.

Requests should specify the document number (GPO No. 055-007-00001-2) and be accompanied by check or money order in the amount of $14.00 per copy.

o Additional microfiche sets may be obtained from:

National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, Virginia, 22161.

These requests should indicate No. PB 265-371 and be accompanied by check or money order in the amount of $9.00 per microfiche set.

o A computer-readable version of the Candidate List may be obtained by written request to:

Computer List, OTS (WH-557)
Attention: Kenneth Olsen
Environmental Protection Agency
401 M Street, S.W.
Washington, DC, 20460.

Persons requesting the computer-readable version of the Candidate List must comply with provisions set forth in the April 28, 1977 FEDERAL REGISTER, pages 21639-40 and the July 8, 1977 FEDERAL REGISTER, page 31583.

For copies of these FEDERAL REGISTER notices, contact the EPA Industry Assistance Office at (800)424-9065.

o The Government Printing Office has arranged to place a copy of the Candidate List in each of its Regional Depository Libraries and in the more than 1,000 depository libraries throughout the country. A State librarian or local library can assist in identifying the location of the nearest depository library.

How to Report by Computer Tape

For special instructions on how to report by computer tape, contact Mr. Kenneth Olsen at (202) 755-2890 or write:

Instructions for Reporting by Computer Tape
Attention: Kenneth Olsen
Office of Toxic Substances (WH-557)
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC, 20460

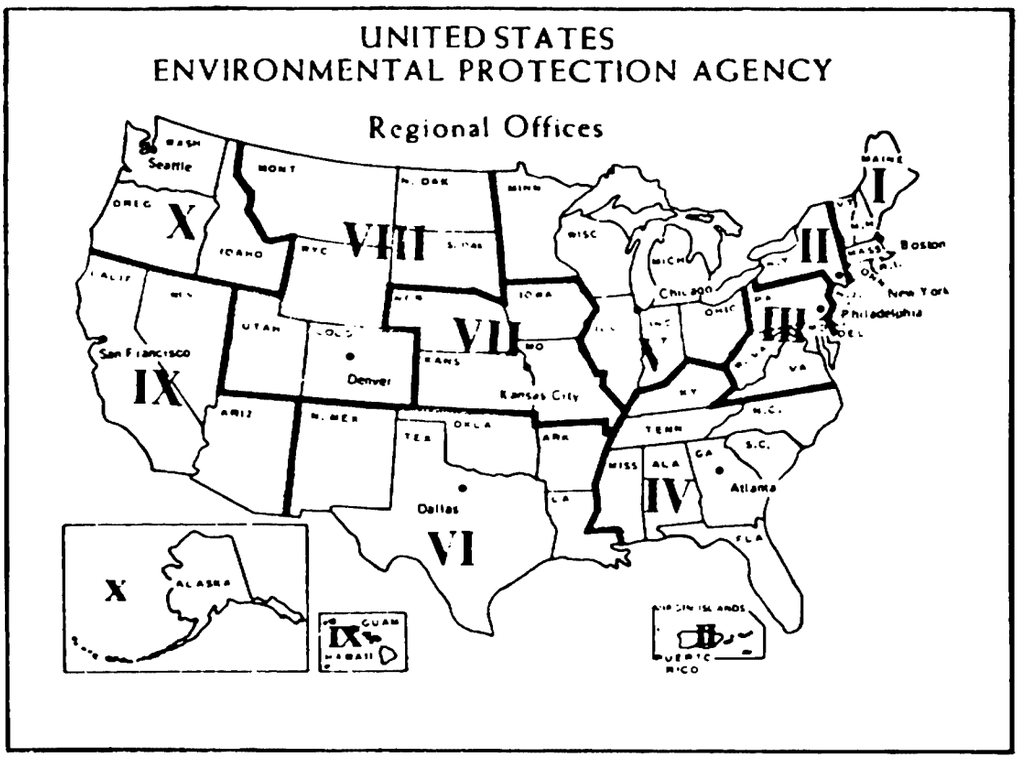
Further Assistance

For further assistance in filling out the report forms or interpreting the regulations, contact:

1. Your regional EPA office. Each region is staffed by persons who can respond to your questions concerning the Inventory Reporting Regulations. The person to contact in each regional office is identified on page 34.

2. EPA's Office of Industry Assistance at (800) 424-9065. In addition, written inquiries may be addressed to:

Office of Industry Assistance (TS-788)
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC, 20460



NATIONWIDE TOLL-FREE NUMBER: 800-424-9065

*If calling from Washington, D.C: 554-1404

Region I

Mr. Robert Dangel*
John F. Kennedy Federal Building
Boston, Massachusetts 02203
617-223-0585

Region II

Mr. William Librizzi*
Raritan Depot, Building 209
Edison, New Jersey 08817
201-321-6673

Region III

Mr. Edward Cohen*
Curtis Building
6th & Walnut Streets
Philadelphia, PA 19106
215-597-7668

Region IV

Mr. Ralph W. Jennings, Rm. 345
Toxic Substances Section Chief
Air & Hazardous Materials Div.
345 Courtland Street, N.E.
Atlanta, Georgia 30308
404-881-3864

Region V

Mr. Karl E. Bremer*
230 South Dearborn Street
Chicago, Illinois 60604
312-353-2291

Region VI

Dr. Larry Thomas
Assistant TSCA Coordinator
First International Building
1201 Elm Street
Dallas, Texas 75270
214-767-2734

Region VII

Dr. Maxwell Wilcomb*
1735 Baltimore Street
Kansas City, Missouri 64108
816-374-3036

Region VIII

Mr. Ralph Larsen*
1860 Lincoln Street
Denver, Colorado 80203
303-837-3926

Region IX

Mr. Jerry Gavin*, Rm. 215
215 Freemont Street
San Francisco, California 94105

Region X

Dr. James Evert*
1200 6th Avenue
Seattle, Washington 98101
206-442-1090

*Toxic Substances Coordinator
Air and Hazardous Materials Division

Chapter VI

HOW TO FILL OUT THE REPORT FORMS

Forms A, B, and C: Blocks I through IV

BLOCK I. CERTIFICATION STATEMENT AND SIGNATURE

SIGNATURE: The certification statement must be signed using a black ball point pen by a person authorized by the manufacturer or importer to sign his official documents. If a trade association or agent reports on behalf of one or more manufacturers or importers, a duly authorized official of the trade association or agent must sign the statement.

An importer who elects to have his foreign supplier/manufacturer report the identity of the chemical substance(s) he imports must use Form C. (Refer to the section of this chapter entitled "Special Instructions for Importers and Foreign Suppliers" for instructions on how such an importer should report using Form C.) The importer must sign the certification statement in the space provided.

DATE: Enter the month, day, and year that the form was signed.

NAME and TITLE: Enter the name and title of the person who signed the certification statement.

FOREIGN SUPPLIER SIGNATURE and DATE (Form C only): If an importer elects to have his foreign supplier/manufacturer report the identity of the chemical substance(s) he imports, a duly authorized official of the foreign supplier/manufacturer must sign in the space provided, attesting to the truth of the Certification Statement by Foreign Supplier on the back of the form. Enter the date the certification statement was signed.

BLOCK II. CORPORATION:

Enter the complete name of the domestic corporation of which the plant site, headquarters, or business address identified in Block III is a part or, if that corporation is directly or indirectly controlled by another domestic corporation, enter the complete name of the parent domestic controlling corporation. Do not enter the name of any non-domestic corporation. If the person is unincorporated, enter the headquarters name. A trade association or agent should enter its complete name.

BLOCK III. PLANT SITE NAME/ADDRESS

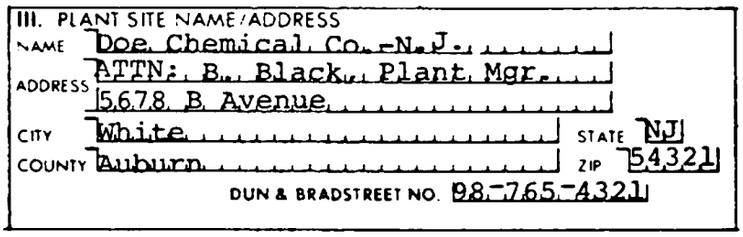
GENERAL NOTE: Enter one letter per space. Leave one blank space between each word.

Reporting by plant site: Enter the name and address of the plant site at which the chemical substance(s) identified in Block V were manufactured.

Reporting by headquarters or business address: Enter the name and address of the person (corporation or other person as defined in the Inventory Reporting Regulations) who manufactured or imported the chemical substance(s) identified in Block V.

Reporting by trade association or other agent: Enter the complete name and headquarters address of the trade association, or the name and address of the agent.

PLEASE NOTE: EPA will acknowledge receipt of each form to the addressee identified in this block. Two lines are provided for the address. If a company wishes, the first line of the address may be used to indicate to whom the acknowledgement should be sent. For example:



The following list contains two-letter state abbreviations which should be used in completing Block III.

TWO-LETTER STATE ABBREVIATIONS

Alabama	AL	Montana	MT
Alaska	AK	Nebraska	NE
Arizona	AZ	Nevada	NV
Arkansas	AR	New Hampshire	NH
California	CA	New Jersey	NJ
Canal Zone	CZ	New Mexico	NM
Colorado	CO	New York	NY
Connecticut	CT	North Carolina	NC
Delaware	DE	North Dakota	ND
District of Columbia	DC	Ohio	OH
Florida	FL	Oklahoma	OK
Georgia	GA	Oregon	OR
Guam	GU	Pennsylvania	PA
Hawaii	HI	Puerto Rico	PR
Idaho	ID	Rhode Island	RI
Illinois	IL	South Carolina	SC
Indiana	IN	South Dakota	SD
Iowa	IA	Tennessee	TN
Kansas	KS	Texas	TX
Kentucky	KY	Utah	UT
Louisiana	LA	Vermont	VT
Maine	ME	Virginia	VA
Maryland	MD	Virgin Islands	VI
Massachusetts	MA	Washington	WA
Michigan	MI	West Virginia	WV
Minnesota	MN	Wisconsin	WI
Mississippi	MS	Wyoming	WY
Missouri	MO		

SAMPLE FORM : BLOCKS I - IV
Example of Reporting by Plant Site

U. S. ENVIRONMENTAL PROTECTION AGENCY
CHEMICAL SUBSTANCE INVENTORY REPORT
(Section 8(a) and (b) Toxic Substances Control Act 15 USC 2607)

I. CERTIFICATION STATEMENT. I hereby certify that, to the best of my knowledge and belief: (1) the chemical substances identified below have been manufactured or imported for a commercial purpose since January 1, 1975, and can be reported for the inventory (40 CFR 710); (2) all information entered on this form is complete and accurate, and (3) the confidentiality statements on the back of this form are true as to that information for which I have asserted a confidentiality claim. I agree to permit access to, and the copying of, records by a duly authorized representative of the EPA Administrator, in accordance with the Toxic Substances Control Act, to document any information reported here.

SIGNATURE: John A. Doe | DATE: 3/8/78 | NAME, TITLE (TYPE OR PRINT): John A. Doe, President, Doe Chemical Company

EPA USE ONLY
MID

II. CORPORATION: Doe Chemical Company

III. PLANT SITE NAME/ADDRESS
NAME: Doe Chemical Co. - N.J.
ADDRESS: ATTN: B. Black, Plant Mgr.
5678 B Avenue
CITY: White | STATE: NJ
COUNTY: Auburn | ZIP: 54321
DUN & BRADSTREET NO.: 98-765-4321

IV. PRINCIPAL TECHNICAL CONTACT(S)
John Smith
Doe Chemical Company
1234 A Street
Green, WN 12345
(765) 555-4321

SAMPLE FORM : BLOCKS I - IV
Example of Reporting by
Headquarters or Business Address

U. S. ENVIRONMENTAL PROTECTION AGENCY
CHEMICAL SUBSTANCE INVENTORY REPORT
(Section 8(a) and (b) Toxic Substances Control Act 15 USC 2607)

I. CERTIFICATION STATEMENT. I hereby certify that, to the best of my knowledge and belief: (1) the chemical substances identified below have been manufactured or imported for a commercial purpose since January 1, 1975, and can be reported for the inventory (40 CFR 710); (2) all information entered on this form is complete and accurate, and (3) the confidentiality statements on the back of this form are true as to that information for which I have asserted a confidentiality claim. I agree to permit access to, and the copying of, records by a duly authorized representative of the EPA Administrator, in accordance with the Toxic Substances Control Act, to document any information reported here.

SIGNATURE: John A. Doe | DATE: 3/8/78 | NAME/TITLE (TYPE OR PRINT): John A. Doe, President, Doe Chemical Company

EPA USE ONLY
MID

II. CORPORATION: Doe Chemical Company

III. PLANT SITE NAME/ADDRESS
NAME: Doe Chemical Company
ADDRESS: ATTN: J. Smith
1234 A Street
CITY: Green | STATE: WN
COUNTY: Orange | ZIP: 12345
DUN & BRADSTREET NO.: 01-234-5678

IV. PRINCIPAL TECHNICAL CONTACT(S)
John Smith
Doe Chemical Company
1234 A Street
Green, WN 12345
(765) 555-4321

DUN and BRADSTREET NUMBER (DUNS NUMBER): Enter the DUNS Number if you know it. If you do not have a DUNS Number, disregard this entry. (NOTE: The Data Universal Numbering System (DUNS) Number is a unique number assigned to a plant site. If you are reporting by plant site, report its DUNS Number. If you are not reporting by plant site, report the headquarters DUNS Number of the corporation (or other person) that is reporting. If you are reporting as a corporation which is a subsidiary of another corporation, enter your DUNS Number, not the DUNS Number of the parent.)

BLOCK IV. PRINCIPAL TECHNICAL CONTACT(S)

Enter the name, address, and telephone number (including area code) of the person(s) whom EPA may contact for clarification of information submitted on this form. An importer who elects to have his foreign supplier/manufacturer report the identity of the imported chemical substance(s) using Form C must enter the name and address of his foreign supplier/manufacturer.

IMPORTANT: Before completing this form, carefully read the EPA publication "Reporting for the Chemical Substance Inventory". That booklet contains instructions for properly completing this form

Approved OMB Form No 158 S 77011

U. S. ENVIRONMENTAL PROTECTION AGENCY
CHEMICAL SUBSTANCE INVENTORY REPORT
(Section 8(a) and (b) Toxic Substances Control Act 15 USC 2607)

FORM A

I. CERTIFICATION STATEMENT. I hereby certify that, to the best of my knowledge and belief (1) the chemical substances identified below have been manufactured or imported for a commercial purpose since January 1, 1975, and can be reported for the inventory (40 CFR 710); (2) all information entered on this form is complete and accurate; and (3) the confidentiality statements on the back of this form are true as to that information for which I have asserted a confidentiality claim. I agree to permit access to (and the copying of) records by a duly authorized representative of the EPA Administrator, in accordance with the Toxic Substances Control Act, to document any information reported here.

SIGNATURE: John A. Doe DATE: 3/8/78 NAME, TITLE, TYPE OR PRINT: John A. Doe, President, Doe Chemical Company

FORM NO.

EPA USE ONLY — MID

II. CORPORATION: Doe Chemical Company

III. PLANT SITE NAME ADDRESS
NAME: Doe Chemical Co. - N.J.
ADDRESS: ATTN: B. Black, Plant Mgr.
5678 B Avenue
CITY: White STATE: NJ
COUNTY: Auburn ZIP: 54321
DUN & BRADSTREET NO.: 98-765-4321

IV. PRINCIPAL TECHNICAL CONTACT(S)
John Smith
Doe Chemical Company
1234 A Street
Green, WN 12345
(765) 555-4321

V. TSCA CANDIDATE LIST CHEMICAL SUBSTANCES (LIST ADDITIONAL SUBSTANCES ON SEPARATE FORMS)

NUMBER	CAS REGISTRY NUMBER (INCLUDE HYPHENS)	EPA CODE DESIGNATION (INCLUDE HYPHEN)	PRODUCTION RANGE	ACTIVITY: (a) MANUFACTURE	ACTIVITY: (b) IMPORT	SITE LIMITED	CONFIDENTIALITY CLAIMS: (a) MANUFACTURE	(b) IMPORT	(c) SITE LIMITED	(d) PRODUCTION	(e) CORPORATION	(f) PLANT SITE	EPA USE ONLY	NUMBER
1	123-17-1	M143-1048	1	✓		✓			✓					1
2	1300-99-8	M150-2226	3	✓										2
3	59-46-1	M151-7358	N	✓										3
4	6054-97-3	A460-5955	2		✓									4
5	6054-97-3	A460-5955	2	✓								✓		5
6	5140-03-4	R163-1777	5	✓						✓		✓		6
7	61790-37-2	R325-8014	3	✓										7
8														8
9														9
10														10
11														11
12														12
13														13
14														14
15														15
16														16
17														17
18														18
19														19
20														20
21														21
22														22
23														23
24														24
25														25
26														26

EPA FORM NC 7710-3A 11-77

EPA FILE COPY

Form A -- Block V

CHEMICAL SUBSTANCES WHICH APPEAR ON THE TSCA CANDIDATE LIST OF CHEMICAL SUBSTANCES Section 710.5

Use this form to report only chemical substances which appear on the TSCA Candidate List of Chemical Substances. Up to 26 Candidate List chemical substances may be reported on each Form A. Obtain additional forms if needed.

Report only one chemical substance per line, beginning on line one and proceeding down the page. If you make an error on a line, cross out the entire line and start over on the next.

For each chemical substance reported, enter in the appropriate column the information specified below.

CAS Registry Number: Enter the Chemical Abstracts Service (CAS) Registry Number as it appears in the Candidate List. Include hyphens.

CAUTION: The TSCA Candidate List of Chemical Substances lists some mixtures and certain chemical substances which, as specified in the Inventory Reporting Regulations, are excluded from the Inventory. Do not report mixtures or excluded chemical substances. Furthermore, the Candidate List includes some trademarks. Do not use Candidate List entries which are trademarks to identify and report chemical substances. Trademarks will not be included on the Inventory. (See the discussion of "trademarks" appearing in chapter VIII.)

In reporting chemical substances for the Inventory by CAS Registry Number, care must be taken to ensure that the proper CAS Registry Number has been selected. CAS Registry Numbers are very specific. Be certain the CAS Registry Number you report corresponds exactly to the chemical substance you want to appear on the Inventory. In many cases, trademark entries in the Substance Name Section of the Candidate List refer to mixtures. The CAS Registry Number, in such cases, refers to only one component chemical substance of that product. Determine the correctness of the CAS Registry Number for the substance you wish to report by checking the name associated with that number in the Number Section of the Candidate List.

EPA Code Designation: Enter the EPA Code Designation (including hyphen) which accompanies the CAS Registry Number in the Candidate List.

Production Range: As specified below, enter the digit (e.g., 0 through 9) which corresponds to the appropriate 1977 production range, according to the following table.

CODE DIGIT	1977 PRODUCTION RANGES	
	Pounds	Kilograms
0	0 to 1,000	0 to 454
1	1,000 to 10,000	454 to 4,540
2	10,000 to 100,000	4,540 to 45,400
3	100,000 to 1 million	45,400 to 454,000
4	1 million to 10 million	454,000 to 4.54 million
5	10 million to 50 million	4.54 million to 22.7 million
6	50 million to 100 million	22.7 million to 45.4 million
7	100 million to 500 million	45.4 million to 227 million
8	500 million to 1 billion	227 million to 454 million
9	Over 1 billion	Over 454 million
A	Trade Association or other agent.	
N	No manufacture or importation during 1977.	
X	Small manufacture or importer.	

Example: A production volume of 175,411 pounds falls within the range of 100,000 to 1 million pounds. The digit 3, which corresponds to that range, would be entered in the box under "Production Range."

If the production range is exactly equal to the upper end of a range, enter the next higher code digit; e.g., if production was exactly 100,000 pounds, enter 3 as the code digit.

a. MANUFACTURERS AND IMPORTERS: Enter the code digit corresponding to the quantity you manufactured or imported during calendar year 1977. If there was no manufacture or importation during 1977, enter "N" in the space provided for production range. If you choose (i.e., are not required) to report chemical substances and do not elect to report their 1977 production ranges, enter "N" for each such substance. Small manufacturers and importers may enter "X" in the space provided for chemical substances which were manufactured or imported during 1977 in amounts less than 100,000 pounds (45,400 kilograms). If they choose to report production ranges for these substances, they should enter both "X" and the appropriate code digit (X0, X1, or X2). No person is a small manufacturer or importer with respect to chemical substances produced in amounts corresponding to code digits 3 through 9. Accordingly, do not include "X" when reporting any of those production ranges.

The production range to be reported is that of the reported chemical substance, not that of the manufactured or imported product. Especially in the case of mixtures and articles, the weight of the product may be substantially greater than the weight of the reported substance. Some importers may not know the weight of the imported substance, and should, in this event, use a best estimate as a basis for reporting production range.

b. TRADE ASSOCIATIONS OR OTHER AGENTS: You may report the estimated aggregate quantity manufactured during calendar year 1977 by the persons on whose behalf you report, by entering "A" followed by the code digit which corresponds to the appropriate volume range (e.g., A1 through A9). If you do not wish to report production volume, simply enter "A" in the box under "Production Range."

Activity: Enter a check in the appropriate box under the general heading "Activity" to indicate whether you manufacture or import the chemical substance. If you both manufacture and import the chemical substance, report the substance on two separate lines, one checked for manufacture and the other checked for importation. However, if your report includes no information on production ranges for a particular chemical substance, you may report the substance on one line, checking both the "Manufacture" and "Import" boxes on that line.

Site-Limited: Enter a check in the box under "Site-Limited" if you manufacture the chemical substance within the plant site identified in Block III and do not distribute the chemical substance, or any mixture or article containing that substance, for commercial purposes outside that site. Check this box if applicable even if the chemical substance is transmitted outside the site in small quantities for research and development.

Confidentiality Claims: Enter a check (s) in the appropriate box(es) to indicate which information is claimed confidential. Trade associations are not permitted to make any confidentiality claims.

a. By checking the box under "Manufacture" for a particular chemical substance, you assert that the fact that you manufacture the chemical substance at the plant site identified in block III for commercial purposes is confidential.

b. By checking the box under "Import" for a particular chemical substance, you assert that the fact that you import the chemical substance for commercial purposes is confidential.

c. By checking the box under "Site-Limited" for a particular chemical substance, you assert that the fact that the chemical substance is not distributed for commercial purposes outside of the manufacturing site identified in Block III is confidential.

d. By checking the box under "Production" for a particular chemical substance, you assert that the production range of the chemical substance for the plant site identified in Block III is confiential.

e. By checking the box under "Corporation" for a particular chemical substance, you assert that the link of this particular chemical substance to the corporation identified in Block II is confidential.

IMPORTANT: Before completing this form, carefully read the EPA publication "Reporting for the Chemical Substance Inventory". That booklet contains instructions for properly completing this form.

Approved OMB Form No. 158 S 77011

U. S. ENVIRONMENTAL PROTECTION AGENCY
CHEMICAL SUBSTANCE INVENTORY REPORT
(Section 8(a) and (b) Toxic Substances Control Act 15 USC 2607)

FORM B

I. CERTIFICATION STATEMENT. I hereby certify that, to the best of my knowledge and belief (1) the chemical substances identified below have been manufactured or imported for a commercial purpose since January 1, 1975 and can be reported for the inventory (40 CFR 710); (2) all information entered on this form is complete and accurate; and (3) the confidentiality statements on the back of this form are true as to that information for which I have asserted a confidentiality claim. I agree to permit access to and the copying of, records by a duly authorized representative of the EPA Administrator, in accordance with the Toxic Substances Control Act, to document any information reported here.

SIGNATURE: John A. Doe — DATE: 3/8/78 — NAME, TITLE (TYPE OR PRINT): John A. Doe, President, Doe Chemical Company

EPA USE ONLY — MID

II. CORPORATION: Doe Chemical Company

III. PLANT SITE NAME/ADDRESS
NAME: Doe Chemical Company
ADDRESS: ATTN: J. Smith
1234 A Street
CITY: Green — STATE: WN — ZIP: 12345
COUNTY: Orange
DUN & BRADSTREET NO.: 01-234-5678

IV. PRINCIPAL TECHNICAL CONTACT(S)
John Smith
Doe Chemical Company
1234 A Street
Green, WN 12345
(765) 555-4321

FORM NO.

V. CHEMICAL SUBSTANCES WITH CAS REGISTRY NUMBERS (List Additional Substances On Separate Forms)

NUMBER	1	2	3	4	5	6	7	8	9	10	EPA USE ONLY
EPA USE ONLY											
CONFIDENTIAL (C) (f) PLANT SITE											
(e) CORPORATION											
(d) PRODUCTION					✓						
(c) SITE LIMITED											
(b) IMPORT		✓									
(a) MANUFACTURE											
ACTIVITY: SITE LIMITED											
ACTIVITY: IMPORT	✓	✓	✓	✓	✓						
ACTIVITY: MANUFACTURE											
PRODUCTION RANGE	3	5	N	0	2						
SPECIFIC CHEMICAL NAME (SEPARATE MULTIPLE NAMES WITH A SEMICOLON)	1,8-dihydroxy-9,10-anthracenedione; chryazin	1,1,1-trichloroethane; methyl chloroform	1,2-dichlorobenzene; dichlorobenzene	3-chlorophenol; m-chlorophenol	1,4-diamino-9,10-anthracenedione; Direct Violet 2RP						
CAS REGISTRY NUMBER (IF KNOWN)	117-10-2	71-55-6	95-50-1	108-43-0	128-95-0						
NUMBER	1	2	3	4	5	6	7	8	9	10	

EPA FORM NO. [illegible]

EPA FILE COPY

Form B -- Block V

CHEMICAL SUBSTANCES WITH CAS REGISTRY NUMBERS WHICH DO NOT APPEAR ON THE TSCA CANDIDATE LIST OF CHEMICAL SUBSTANCES

Use this form to report only chemical substances with CAS Registry Numbers which do not appear on the TSCA Candidate List of Chemical Substances. Use Form A for chemical substances which do appear on the TSCA Candidate List of Chemical Substances. Up to ten chemical substances may be reported on this form. Obtain additional forms if needed.

Report only one chemical substance per line, beginning on line one and proceeding down the page. If you make an error on a line, cross out the entire line and start over on the next.

For each chemical substance reported, enter in the appropriate column the information specified below.

CAS Registry Number: Enter the Chemical Abstracts Service (CAS) Registry Number. Include hyphens. If you do not know the CAS Registry Number which corresponds to the chemical substance you wish to report, consult any of the following sources:

-- CA Volume or Collective Chemical Substance Indexes
-- CA Volume or Collective Formula Indexes
-- CA INDEX GUIDE
-- CAS REGISTRY HANDBOOK -- Common Names (on microform).

Refer to Appendix 4, which includes a description of each of these sources and a general guide to their use. Do not use Form B unless you can find the appropriate CAS Registry Number for the chemical substance to be reported.

Specific Chemical Name: Enter the specific chemical name which corresponds to the CAS Registry Number. EPA encourages the reporting of synonymous names for each substance reported. Separate synonyms from the specific chemical name and from one another with semi-colons.

The specific chemical name should uniquely identify the substance and should include such information as positions of chemical attachments or of unsaturation, salt forms and ratios, and stereochemistry, as appropriate. Any inconsistency between the structure associated with a particular CAS Registry Number and the name supplied will prevent the substance from being added to the inventory until the manufacturer supplies information that would clarify the identity.

Production Range: Enter the code digit which corresponds to the appropriate production range, according to the instructions for filling out Form A. Use the symbols "N," "A," or "X," if appropriate, in the manner described there.

Activity: Enter a check in the appropriate box under the general heading "Activity" according to the instructions for filling out Form A.

Site-Limited: Enter a check in the box under "Site-Limited," according to the instructions for filling out Form A.

Confidentiality Claims: Enter a check(s) in the appropriate box(es) to indicate which information is claimed confidential as explained in the instructions for filling our Form A. Trade associations are not permitted to make any confidentiality claims. The assertions regarding confidentiality claims on Form B are identical to those presented in the preceding instructions for filling out Form A.

Form C -- Block V

CHEMICAL SUBSTANCES WITH NO KNOWN CAS REGISTRY NUMBER OR WHOSE IDENTITY IS CLAIMED CONFIDENTIAL

This form must be used to report a chemical substance if:

a. the CAS Registry Number is not known,
b. the chemical identity is claimed confidential, or
c. an importer has the foreign supplier/manufacturer supply chemical identity information.

Only one (1) chemical substance may be reported per form. Obtain additional forms if needed. Importers or foreign suppliers who wish to maintain certain items of information as confidential for purposes of the Inventory or with respect to one another should consult the "Special Instructions for Importers and Foreign Suppliers" found on page 53

For the chemical substance reported, enter the information specified below in the appropriate space provided.

CAS Registry Number: If you are using Form C for purposes other than item (a), above, enter the Chemical Abstracts Service (CAS) Registry Number (if known). Include hyphens. CAS Registry numbers for a great many chemical substances may be found in the following sources:

-- CA Volume, or Collective Chemical Substance Indexes
-- CA Volume, or Collective Formula Indexes
-- CA INDEX GUIDE
-- CAS REGISTRY HANDBOOK -- Common Names (on microform).

Refer to Appendix 4 for more information on these sources.

Specific Chemical Name: Following the instructions presented in Appendix 5, enter a specific chemical name for a Class 1 chemical substance or a specific name for a Class 2 chemical substance. EPA encourages the reporting of synonymous names for each substance reported. Separate synonyms from the "specific chemical name" and from one another with semi-colons. In addition, enter a check in the appropriate box indicating whether the reported chemical substance is a Class 1 or Class 2 substance.

Other Chemical Substance Identification Information: Enter in the space provided below line 1, if applicable, other information needed to identify clearly the reported chemical substance. Refer to Appendix 5 for a specification of what information must be submitted when reporting a Class 1 or Class 2 chemical substance.

Production Range: Enter the code digit (e.g., 0 through 9) which corresponds to the appropriate production range according to the instructions for filling out Form A. Use the symbols "N," "A," or "X," if appropriate, in the manner described there.

IMPORTANT: Substance Inventory". That booklet contains instructions for properly completing this form.

Approved OMB Form No. 158 S 77011

U. S. ENVIRONMENTAL PROTECTION AGENCY
CHEMICAL SUBSTANCE INVENTORY REPORT
(Section 8(a) and (b) Toxic Substances Control Act 15 USC 2607)

FORM **C**

I. CERTIFICATION STATEMENT. I hereby certify that to the best of my knowledge and belief (1) the chemical substance identified below has been manufactured or imported for a commercial purpose since January 1, 1975 and can be reported for the inventory (40 CFR 710); (2) all information entered on this form is complete and accurate; and (3) the confidentiality statements on the back of this form are true as to that information for which I have asserted a confidentiality claim. I agree to permit access to, and the copying of, records by a duly authorized representative of the EPA Administrator, in accordance with the Toxic Substances Control Act, to document any information reported here.

SIGNATURE: John A. Doe — DATE: 3/8/78 — NAME, TITLE (TYPE OR PRINT): John A. Doe, President, Doe Chem. Co.

Foreign Supplier Signature: _____ Date: _____

EPA USE ONLY — MID

II. CORPORATION: Doe Chemical Company

III. PLANT SITE NAME/ADDRESS
NAME: Doe Chemical Co. - N.J.
ADDRESS: ATTN: B. Black, Plant Mgr.
5678 B Avenue
CITY: White — STATE: NJ
COUNTY: Auburn — ZIP: 54321
DUN & BRADSTREET NO.: 98-765-4321

IV. PRINCIPAL TECHNICAL CONTACT(S)
John Smith
Doe Chemical Company
1234 A Street
Green, WN 12345
(765) 555-4321

FORM NO

V. CHEMICAL SUBSTANCE WHERE THE IDENTITY IS CONFIDENTIAL (AND/OR) THE CAS REGISTRY NUMBER IS UNKNOWN

	NUMBER	EPA USE ONLY
	EPA USE ONLY	
CONFIDENTIALITY CLAIM: (f) PLANT SITE		
(e) CORPORATION		
(d) PRODUCTION		
(c) SITE LIMITED		
(b) IMPORT		
(a) MANUFACTURE		
ACTIVITY: SITE LIMITED		
IMPORT		
MANUFACTURE	✓	
PRODUCTION RANGE	2	

EPA USE ONLY

(g) ☐ CHEMICAL SUBSTANCE IDENTITY IS CONFIDENTIAL
(1) SUBSTANTIATION: ☐ No. of sheets attached (write form number on all substantiation sheets).
(2) Proposed Generic Name:
(3) ☐ I agree to the terms of CONFIDENTIAL CHEMICAL SUBSTANCE IDENTITY STATEMENT on the back of this form.

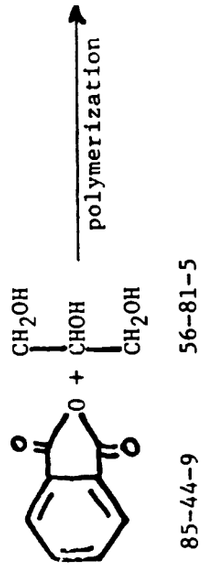
SPECIFIC CHEMICAL NAME (SEPARATE MULTIPLE NAMES WITH A SEMI-COLON): Linseed oil-phthalic anhydride-glycerol resin

☐ CLASS 1 ☒ CLASS 2

IN THE SPACE PROVIDED BELOW, PROVIDE STRUCTURAL INFORMATION, MOLECULAR FORMULA, AND OTHER SUPPLEMENTAL INFORMATION TO AID IN THE SPECIFIC IDENTIFICATION OF THE CHEMICAL SUBSTANCE:

☐ SEE ATTACHED SHEETS (WRITE FORM NO. ON ALL ATTACHMENTS) — NO. OF SHEETS

MOLECULAR FORMULA



Linseed oil + *8001-26-1

56-81-5

85-44-9

CAS REGISTRY NUMBER (IF KNOWN)

NUMBER: 1

EPA FORM NO. 7710-30 (11-77)

EPA FILE COPY

IMPORTANT: Before comp ng this form, carefully read the EPA publication "Repo g for the Chemical Substance Inventory". That booklet contains instructions for properly completing this form

Approved OMB Form No 158 S 770011

U. S. ENVIRONMENTAL PROTECTION AGENCY
CHEMICAL SUBSTANCE INVENTORY REPORT
(Section 8(a) and (b) Toxic Substances Control Act 15 USC 2607)

FORM C

I. CERTIFICATION STATEMENT. I hereby certify that, to the best of my knowledge and belief: (1) the chemical substance identified below has been manufactured or imported for a commercial purpose since January 1, 1975, and can be reported for the inventory (40 CFR 710); (2) all information entered on this form is complete and accurate; and (3) the confidentiality statements on the back of this form are true as to that information for which I have asserted a confidentiality claim. I agree to permit access to, and the copying of, records by a duly authorized representative of the EPA Administrator, in accordance with the Toxic Substances Control Act, to document any information reported here.

SIGNATURE: John A. Doe — DATE: 3/8/78 — NAME, TITLE, TYPE OR PRINT: John A. Doe, President, Doe Chem. Co.

Foreign Supplier Signature: _____ Date: _____

EPA USE ONLY — MID

II. CORPORATION: Doe Chemical Company

III. PLANT SITE NAME/ADDRESS

NAME: Doe Chemical Company
ADDRESS: ATTN: John Smith
1234 A Street
CITY: Green — STATE: WN
COUNTY: Orange — ZIP: 12345
DUN & BRADSTREET NO.: 01-234-5678

IV. PRINCIPAL TECHNICAL CONTACT(S)

John Smith
Doe Chemical Company
1234 A Street
Green, WN 12345
(765) 555-4321

FORM NO.

V. CHEMICAL SUBSTANCE WHERE THE IDENTITY IS CONFIDENTIAL (AND/OR) THE CAS REGISTRY NUMBER IS UNKNOWN.

	NUMBER	EPA USE ONLY
	EPA USE ONLY	
CONFIDENTIALITY CLAIMS (f) PLANT SITE		
(e) CORPORATION		
(d) PRODUCTION		
(c) SITE LIMITED		
(b) IMPORT	✓	
(a) MANUFACTURE		
ACTIVITY: SITE LIMITED		
IMPORT	✓	
MANUFACTURE		
PRODUCTION RANGE	4	

(g) ☐ CHEMICAL SUBSTANCE IDENTITY IS CONFIDENTIAL
(1) SUBSTANTIATION: No. of sheets attached (write form number on all substantiation sheets): ☐
(2) Proposed Generic Name:
(3) I agree to the terms of CONFIDENTIAL CHEMICAL SUBSTANCE IDENTITY STATEMENT on the back of this form. ☐

SPECIFIC CHEMICAL NAME (SEPARATE MULTIPLE NAMES WITH A SEMICOLON): 1,1-Di-3,4-xylylethane

☒ CLASS 1 ☐ CLASS 2

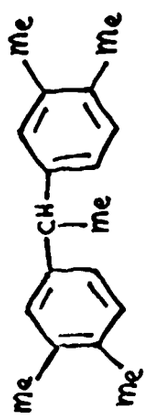
CAS REGISTRY NUMBER (IF KNOWN):

NUMBER: 1

IN THE SPACE PROVIDED BELOW, PROVIDE STRUCTURAL INFORMATION, MOLECULAR FORMULA, AND OTHER SUPPLEMENTAL INFORMATION TO AID IN THE SPECIFIC IDENTIFICATION OF THE CHEMICAL SUBSTANCE:

☐ SEE ATTACHED SHEETS (WRITE FORM NO. ON ALL ATTACHMENTS) NO. OF SHEETS

MOLECULAR FORMULA: $C_{18}H_{22}$



EPA FORM NO. 7710-35 (11-77)

EPA FILE COPY

Activity: Enter a check in the appropriate box under the general heading "Activity" to indicate whether you manufacture or import the chemical substance. NOTE: If you both manufacture and import the chemical substance, separate report forms must be submitted for manufacture and importation, one checked for manufacture and the other checked for importation. However, if you are not reporting a production range one report may be submitted with both the "Manufacture" and "Import" boxes checked.

Site-Limited: Enter a check in the box under "Site-Limited" according to the instructions for filling out Form A.

Confidentiality Claims: Enter a check(s) in the appropriate box(es) to indicate which information is claimed confidential. Trade associations are not permitted to make any confidentiality claims.

a. By checking the box under "Manufacture" for a particular chemical substance, you assert that the fact that you manufacture the chemical substance at the plant site identified in Block III for commercial purposes is confidential.

b. By checking the box under "Import" for a particular chemical substance, you assert that the fact that you import the chemical substance for commercial purposes is confidential.

c. By checking the box under "Site-Limited" for a particular chemical substance, you assert that the fact that the chemical substance is not distributed for commercial purposes outside of the manufacturing site identified in Block III is confidential.

d. By checking the box under "Production" for a particular chemical substance, you assert that the production range of the chemical substance for the plant site identified in Block III is confidential.

e. By checking the box under "Corporation" for a particular chemical substance, you assert that the link of this particular chemical substance to the corporation identified in Block II is confidential.

f. By checking the box under "Plant Site" for a particular chemical substance, you assert that the link of this chemical substance to the plant site identified in Block III is confidential.

g. By checking the box beside "Chemical Substance Identity is Confidential," you claim the identity of the chemical substance reported in Block V confidential. (NOTE: See chapter VIII, "Confidentiality" for additional information you must provide before EPA will consider such a claim.)

Special Instructions for Importers and Foreign Suppliers

An importer may elect to have his foreign supplier report the chemical identity of the substance(s) he imports. In some cases, the importer may not know the specific chemical identity of a substance because the foreign supplier chooses to keep it confidential. On the other hand, an importer may choose to keep the amount of a particular substance he imports confidential with regard to the foreign supplier.

In this situation, in order to comply with the Inventory Reporting Regulations, the importer would have to provide the volume range of importation of a particular substance and the foreign supplier would have to provide the specific chemical identity of the substance.

By following the procedures below, an importer can comply with reporting requirements and both he and the foreign supplier can maintain the confidentiality of the information they provide on the form. In filling out the form, be sure to follow Form C instructions in addition to these procedures.

Importers:

NOTE: You must use Form C if a foreign supplier will be reporting chemical identity for you.

1. Complete Blocks I-IV in the manner previously discussed. In this case, however, enter the name and address of your foreign supplier in Block IV, as the principal technical contact. Also complete any items in Block V which you do not wish to keep confidential with regard to your foreign supplier.

2. In Block V, enter the name of the substance as you know it. This may be a trademark or other commercial name.

   If you do not wish to keep any information in Block V confidential from your foreign supplier, send the entire form to him. You are encouraged to photocopy the top copy of the partially completed form for your records.

3. To keep the volume range of importation confidential:

   a. Remove the top copy, labeled "EPA File Copy", of the form.
   b. Enter the volume range in the space provided on the top copy only.
   c. Check the box labeled "Production" under the heading "Confidentiality Claims."
   d. Send the top copy to EPA. Also include a note stating that the remaining part of the form was sent to a foreign supplier for completion. EPA encourages you to photocopy the top copy for your records.
   e. Send the remaining copies to the foreign supplier, and inform him that you have reported the production range to EPA, but not to him.

Foreign Suppliers:

1. Enter the specific chemical identity of the product indicated by the importer in Block V. Read carefully the Form C: Block V instructions on how to identify a chemical substance.

   If the importer has identified a product which is an article, mixture, or an excluded chemical substance, you must, as appropriate, either indicate that there is no reporting requirement for that substance, or identify the reportable chemical substances in the product.

2. Sign the foreign supplier certification statement appearing in Block I of Form C, attesting to the truth of the statement on the back of the form. Enter the date you signed the form.

3. If you wish to claim the chemical identity of the substance confidential, follow the procedure described in chapter VII, "Confidentiality," of this booklet. In addition, check the box labeled "Chemical Identity is Confidential" under the heading "Confidentiality Claims."

4. Retain the last copy, marked "Submitting Company Copy," and send the remainder to EPA.

Chapter VII

CONFIDENTIALITY
Section 710.7

Any or all of the information that you submit to EPA may be claimed as confidential if it relates to trade secrets or commercial or financial matters that you consider to be confidential. You must make and substantiate your confidentiality claims before you submit the completed forms to EPA. If you fail to do so, EPA may disclose the information without further notice to you.

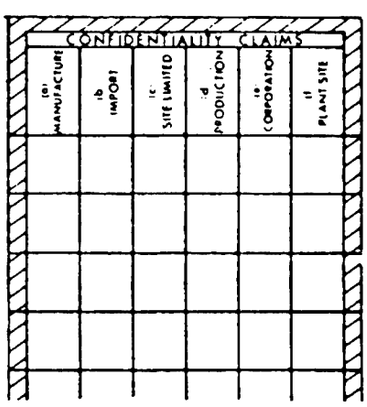
If you make a claim in the manner specified below, EPA will disclose the information only to the extent, and by means of the procedures, set forth in regulations governing EPA's treatment of confidential business information. These regulations, appearing in Part 2, Subpart B of Title 40 of the Code of Federal Regulations and also in the Federal Register, September 1, 1976, Volume 41, page 36904, specify the procedures EPA must follow in determining disclosure of confidential information. (Contact EPA's Office of Industry Assistance for a copy of this FEDERAL REGISTER notice.) Among other things, the regulations require that EPA notify you in advance of publicly disclosing any information you have claimed as confidential and substantiated as specified below.

How to Claim Confidentiality

You must make confidentiality claims in the spaces provided on the forms. If you want to claim the chemical identity of a particular chemical substance confidential you must report that substance using Form C. All other confidentiality claims may be made on Forms A, B, or C.

A. Claiming Confidentiality on Forms A and B

Forms A and B are designed to allow reporting of all information concerning a particular chemical substance on a single line. At the far right-hand side of each line are six columns under the heading "Confidentiality Claims", as illustrated below:



Each column corresponds to a claim of confidentiality which appears in the instructions for Block V, entitled "Confidentiality Claims." By checking the box under any column, you are claiming as confidential the particular item of information which corresponds to that column. For example, if you check the box under the column labeled "manufacture," you are claiming that the fact that you manufacture the chemical substance for a commercial purpose at the plant site identified in Block III is confidential.

Each line corresponds only to the particular chemical substance reported on that line. For this reason, you must report only one chemical substance per line. If you check one or more boxes under Confidentiality Claims on line 1, for example, these claims apply only to the chemical substance reported on that line.

Also, making a claim on one form does not affect the status of information on another form. Therefore, you must make all applicable claims on each line of each form.

B. Substantiating Confidentiality Claims on Forms A & B

By signing the certification statement appearing on the front of the form, you are attesting to the truth of all confidentiality claims you make on the form. This certification statement includes the following phrase:

> "I hereby certify that . . . .(3) the confidentiality statements on the back of this form are true as to that information for which I have asserted a confidentiality claim . . ."

The statements which appear on the back of the form are to substantiate any and all of the claims of confidentiality on the form. There are four general statements which apply to all information you have claimed as confidential on the form. Below them are six more statements, each of which applies to a particular confidentiality claim. For each claim of confidentiality you make, you must certify, by signing the form, that all four general statements are true in addition to the statement which corresponds to the particular claim you made on the front of the form.

For example, for a particular substance you may wish to claim that the fact that you manufacture the substance at a particular plant site for a commercial purpose is confidential, and that the amount of the substance you manufacture at that plant site is also confidential. In order to substantiate your confidentiality claims for these items of information, you must attest, by signing the certification statement in Block I, to the truth of:

1. all four general statements,

2. the statement headed "Manufacture," and

3. the statement headed "Production,"

all of which appear on the back of the form. This example applies to each claim you make with regard to each chemical substance you report on the form.

If one or more of the statements is not true for a particular item of information you wish to claim confidential, you may not claim that information as confidential. All applicable statements must be true for each item of information you claim confidential.

C. Claiming Confidentiality on Form C

To claim any item of information as confidential, other than chemical identity, check the appropriate box(es) under the heading "Confidentiality Claims," as you would on Forms A or B. (See Section A of this chapter entitled "Claiming Confidentiality on Forms A and B.")

If you wish to claim the chemical identity of a particular chemical substance as confidential for purposes of the Inventory, check the box in Block V which is labeled "Chemical Substance Identity is Confidential."

D. Substantiating Claims of Confidentiality on Form C

1. Claims other than Chemical Identity

Instructions for substantiating all confidentiality claims other than chemical identity are the same for Forms A, B, and C. (Refer to Section B of this chapter entitled "Substantiating Claims of Confidentiality on Forms A and B.")

2. Chemical Identity

By claiming the chemical identity of a particular chemical substance confidential for purposes of the Inventory, you are asserting that, to the best of your knowledge, the fact that the chemical substance is manufactured or imported for a commercial purpose by anyone is confidential. This claim must be substantiated in writing, as follows, for each chemical substance whose identity you claim as confidential:

-- In accordance with procedures specified below, you must prepare a letter and attach it to each Form C on which you have claimed the chemical identity of a substance as confidential.

-- Your letter must include a cross-reference to the specifically numbered Form C. (The form number appears on the upper left-hand side of the form.)

-- The letter must be signed by a responsible official with direct knowledge of the information contained in the letter.

-- Your letter must address each of the following questions in detail. (To the extent possible, provide factual information or relevant examples to substantiate your claim.)

1. What harmful effects to your competitive position, if any, do you think would result from the identity of the chemical substance appearing on the Inventory? How could a competitor use such information, given the fact that the identity of the

substance would otherwise appear on the Inventory of chemical substances with no link between the substance and your company or industry? Would the effects of disclosure be substantial? What is the causal relationship between the disclosure and the harmful effects?

2. How long should confidential treatment be given? Until a specific date, the occurrence of a specific event, or permanently? Why?

3. Has the chemical substance been patented? If so, have you granted licenses to others with respect to the patent as it applies to the chemical substance? If the chemical substance has been patented and therefore been disclosed through the patent, why should it be treated as confidential for purposes of the Inventory?

4. Has the identity of the chemical substance been kept confidential to the extent that your competitors do not know it is being manufactured or imported for a commercial purpose by anyone?

5. Is the fact that the chemical substance is being manufactured or imported for a commercial purpose publicly available, for example in technical journals, libraries, or state, local, or federal agency public files?

6. What measures have you taken to prevent undesired disclosure of the fact that this chemical substance is being manufactured or imported for a commercial purpose?

7. To what extent has the fact that this chemical substance is manufactured or imported for a commercial purpose been revealed to others? What precautions have been taken regarding these disclosures? Have there been public disclosures or disclosures to competitors?

8. Does this particular chemical substance leave the site of manufacture in any form, either as product, effluent, emission, etc.? If so, what measures have you taken to guard against discovery of its identity?

9. If the chemical substance leaves the site in a product that is available to the public or your competitors, can the substance be identified by analysis of the product?

10. For what purpose do you manufacture or import the substance?

11. Has EPA, another federal agency, or any federal court made any pertinent confidentiality determinations regarding this chemical substance? If so, please attach copies of such determinations.

EPA will regard as confidential any information which you furnish in response to the above questions provided it is marked CONFIDENTIAL at the top of each page containing confidential information and it is not otherwise possessed by EPA. EPA will not disclose this information without your consent unless disclosure is ordered by a federal court. (NOTE: Indicate the number of pages substantiating the claim which you have attached to Form C in the appropriate box provided in Block V.)

Further Information Required on Form C when Chemical Identity is Claimed Confidential

A. Chemical Identity and CAS Registry Number (if known)

Even if you claim the chemical identity of the substance reported on Form C confidential, you must report the specific identity on the form. Also report the CAS Registry Number if you know it.

B. Proposed Generic Chemical Name

If you claim the chemical identity of a substance confidential, you must furnish EPA with a proposed generic chemical name which is only as generic as necessary to protect the confidential chemical identity. EPA will publish a generic chemical name in an appendix to the Inventory to inform the public of the type of chemical substance which has been claimed confidential. EPA will review your proposed generic chemical name in accordance with section 710.7(f) of the Inventory regulations, and may ask you to submit other proposed names. If you fail to provide a proposed generic chemical name for your chemical substance, EPA will consider this a waiver of your claim of confidentiality and will publish the chemical identity of the substance on the Inventory.

C. Agreement to EPA Disclosure to Bona Fide Manufacturer

If you claim the chemical identity of a substance confidential, you must agree to the statement appearing on the back of the form which authorizes EPA to disclose the fact that the chemical substance is included on the Inventory to a person with a bona fide intent to manufacture the chemical substance. In addition, you agree that you have and will make available upon request, the data specified in section 710.7(e) of the Inventory Regulations. If you fail to agree to this statement, EPA will consider this a waiver of your claim of confidentiality and will publish the chemical identity of the substance on the Inventory.

IMPORTANT: Before completing this form, carefully read the EPA publication "Reporting for the Chemical Substance Inventory". That booklet contains instructions for properly completing this form.

Approved OMB Form No. 158 S 77011

U. S. ENVIRONMENTAL PROTECTION AGENCY
VOLUNTARY PRODUCT TRADEMARK REPORT
(IN CONJUNCTION WITH THE TOXIC SUBSTANCES CONTROL ACT INVENTORY REPORTING)

FORM D

I. CERTIFICATION STATEMENT I hereby certify that, to the best of my knowledge and belief, each trademark listed below identifies a product which I manufacture or import and that all component chemical substances that are permitted to be reported for the inventory 40 CFR 710 have been reported either by me or by others. I agree to permit access to, and the copying of records, by a duly authorized representative of the EPA Administrator, in accordance with the Toxic Substances Control Act, to document any information reported here.

John A. Doe — SIGNATURE

3/15/78 — DATE

John A. Doe, President — NAME TITLE TYPE OR PRINT

EPA USE ONLY
MID

Doe Chemical Company

FORM NO

II. CORPORATE NAME ADDRESS

NAME: Doe Chemical Company
ADDRESS: Attn: J. Smith
1234 A Street
CITY: Green
STATE: WN
COUNTY: Auburn
ZIP: 12345
CORPORATE DUN & BRADSTREET NO.: 01-234-5678

III. PRINCIPAL TECHNICAL CONTACT(S)

John Smith
Doe Chemical Company
1234 A Street
Green, WN 12345
(765) 555-4321

IV. LIST OF PRODUCT TRADEMARKS

NO.	PRODUCT TRADEMARKS (NAMES)	NO	NO	PRODUCT TRADEMARKS (NAMES)	NO.
1	Dochem 400 through 650	1	29		29
2	Doe-Kem (all products)	2	30		30
3	Dokemin Synthetic Spermaceti	3	31		31
4	Dokemin Mineral Oil	4	32		32
5	DoChemCo 20 and 62Y	5	33		33
6	Super DoChemCo	6	34		34
7	Doe-Co Wax	7	35		35
8	JAD Silver Polish	8	36		36
9		9	37		37
10		10	38		38
11		11	39		39
12		12	40		40
13		13	41		41
14		14	42		42
15		15	43		43
16		16	44		44
17		17	45		45
18		18	46		46
19		19	47		47
20		20	48		48
21		21	49		49
22		22	50		50
23		23	51		51
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28		28	56		56

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Chapter VIII

HOW TO FILL OUT FORM D
Voluntary Product Trademark Report

Completion of this form is strictly voluntary, and in no way replaces mandatory reporting of chemical substances on Forms A, B, or C. Obtain additional forms if needed. No manufacturer or importer is required to report the names of his trademarked products.

For purposes of Form D reporting, a trademark is a proprietary name used by a manufacturer or importer to distinguish his products from one another and from those of other manufacturers or importers. It may or may not be registered and may contain the name of the manufacturer or importer. The trademark is generally synonymous with brand name.

For purposes of Form D reporting, a product line is a group of products a company identifies with a common term. Individual products in this line may differ in composition, physical properties, or other factors, but will share the common term; for example, ABC-X, ABC-Y, ABC-41, and ABC-Z Super may all be products in the product line "ABC."

In order to report a trademark, you must be able to certify that you or someone else has reported for the Inventory all of the reportable chemical substances comprising the product(s) which are identified by this trademark. A letter from your supplier stating that he has reported all the substances which you purchase and incorporate in the products in question is an acceptable basis for such certification with respect to these ingredients.

You may report registered and unregistered trademarks, and product lines. Do not report logos. EPA encourages you to report product lines, if appropriate, instead of listing each product individually. The term you report must apply only to the product(s) or product line(s) for which you can sign the certification statement.

Up to 56 product trademarks may be reported on each Form D. Report only one product trademark or product line, per line. Begin on line one and proceed down the page. If you make an error on a line, cross out the entire line and start over on the next.

BLOCK I: CERTIFICATION STATEMENT AND SIGNATURE

SIGNATURE: The certification statement must be signed by a person authorized to sign official documents.

DATE: Enter the month, day, and year that the form was signed.

NAME and TITLE: Enter the name and title of the person who signed the certification statement.

BLOCK II: CORPORATION NAME AND ADDRESS

Enter the complete name of the domestic corporation or other domestic person who manufactures or imports the trademarked products. If the person is unincorporated, enter the headquarters name and address. A list of state abbreviations is included in chapter V.

BLOCK III: PRINCIPAL TECHNICAL CONTACT(S)

Enter the name, address, and telephone number (including area code) of the person(s) whom EPA may contact for clarification of information submitted on this form.

BLOCK IV: PRODUCT TRADEMARKS

List the product trademarks, brand names, or product lines for the products you manufacture or import for which the certification statement applies.

APPENDICES

1. Inventory Reporting Regulations (40 CFR 710)

2. Standard Industrial Classification (SIC) Groups 28 and 2911

3. Guide to the Use of the TSCA Candidate List of Chemical Substances

4. Alternative Sources of CAS Registry Numbers

5. Identifying Chemical Substances Which Have No Known CAS Registry Number

APPENDIX 1

Inventory Reporting Regulations (40 CFR 710)

Part 710 is established to read as follows:

Sec.
710.1 Scope and compliance.
710.2 Definitions.
710.3 Applicability; Reporting for the initial and revised inventory.
710.4 Scope of the inventory.
710.5 How to report for the inventory.
710.6 When to report.
710.7 Confidentiality.
710.8 Effective date.

AUTHORITY: Subsection 8(a), Toxic Substances Control Act (TSCA) (90 Stat. 2003, (15 U.S.C. 2607(a))).

§ 710.1 Scope and compliance.

(a) This Part establishes regulations governing reporting by certain persons who manufacture, import, or process chemical subsances for commercial purposes under section 8(a) of the Toxic Substances Control Act (15 U.S.C. 2607 (a)). Section 8(a) authorizes the Administrator to require reporting of information necessary for administration of the Act and requires EPA to issue regulations for the purpose of compiling an inventory of chemical substances manufactured or processed for a commercial purpose, as required by section 8(b) of the Act. Following an initial reporting period, EPA will publish an initial inventory of chemical substances manufactured or imported for commercial purposes. After a supplemental reporting period, EPA will publish a revised inventory including those additional chemical substances processed or used for commercial purposes or imported for commercial purposes as a part of a mixture or article. Further, in accordance with section 8(b), EPA periodically will amend the inventory to include new chemical substances which are manufactured or imported for a commercial purpose and reported under section 5(a)(1) of the Act. EPA also will revise the categories of chemical substances and make other amendments as appropriate.

(b) Section 15(3) of TSCA makes it unlawful for any person to fail or refuse to submit information required under these reporting regulations. In addition, section 15(3) makes it unlawful for any person to fail to keep, and permit access to, records required by these regulations. Section 16 provides that any person who violates a provision of section 15 is liable to the United States for a civil penalty and may be criminally prosecuted. Pursuant to section 17, the Government may seek judicial relief to compel submission of section 8(a) information and to otherwise restrain any violation of section 15.

NOTE.—As a matter of traditional Agency policy, EPA does not intend to concentrate its enforcement efforts on insignificant clerical errors in reporting.

(c) Each person who reports under these regulations shall maintain records that document information reported under these regulations and, in accordance with the Act, permit access to, and the copying of such records by EPA officials.

§ 710.2 Definitions.

For the purposes of this Part: (a) The following terms shall have the meaning contained in the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 321 et seq., and the regulations issued under such Act: "cosmetic," "device," "drug," "food," and "food additive." In addition, the term "food" includes poultry and poultry products, as defined in the Poultry Products Inspection Act, 21 U.S.C. 453 et seq.; meats and meat food products, as defined in the Federal Meat Inspection Act, 21 U.S.C. 60 et seq.; and eggs and egg products, as defined in the Egg Products Inspection Act, 21 U.S.C. 1033 et seq.

(b) The term "pesticide" shall have the meaning contained in the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. 136 et seq., and the regulations issued thereunder.

(c) The following terms shall have the meaning contained in the Atomic Energy Act of 1954, 42 U.S.C. 2014 et seq., and the regulations issued thereunder: "byproduct material," "source material," and "special nuclear material."

(d) "Act" means the Toxic Substances Control Act, 15 U.S.C. 2601 et seq.

(e) "Administrator" means the Administrator of the U.S. Environmental Protection Agency, any employee or authorized representative of the Agency to whom the Administrator may either herein or by order delegate his authority to carry out his functions, or any other person who shall by operation of law be authorized to carry out such functions.

(f) An "article" is a manufactured item (1) which is formed to a specific shape or design during manufacture, (2) which has end use function(s) dependent in whole or in part upon its shape or design during end use, and (3) which has either no change of chemical composition during its end use or only those changes of composition which have no commercial purpose separate from that of the article and that may occur as described in § 710.4 (d)(5); except that fluids and particles are not considered articles regardless of shape or design.

(g) "Byproduct" means a chemical substance produced without separate commercial intent during the manufacture or processing of another chemical substance(s) or mixture(s).

(h) "Chemical substance" means any organic or inorganic substance of a particular molecular identity, including any combination of such substances occurring in whole or in part as a result of a chemical reaction or occurring in nature, and any chemical element or uncombined radical; except that "chemical substance" does *not* include:

(1) Any mixture,

(2) Any pesticide when manufactured, processed, or distributed in commerce for use as a pesticide,

(3) Tobacco or any tobacco product, but not including any derivative products,

(4) Any source material, special nuclear material, or byproduct material,

(5) Any pistol, firearm, revolver, shells, and cartridges, and

(6) Any food, food additive, drug, cosmetic, or device, when manufactured, processed, or distributed in commerce for use as a food, food additive, drug, cosmetic, or device.

(i) "Commerce" means trade, traffic, transportation, or other commerce (1) between a place in a State and any place outside of such State, or (2) which affects trade, traffic, transportation, or commerce described in clause (1).

(j) "Distribute in commerce" and "distribution in commerce" when used to describe an action taken with respect to a chemical substance or mixture or article containing a substance or mixture, mean to sell or the sale of, the substance, mixture, or article in commerce; to introduce or deliver for introduction into commerce, or the introduction or delivery for introduction into commerce of, the substance, mixture, or article; or to hold, or the holding of, the substance, mixture, or article after its introduction into commerce.

(k) "EPA" means the U.S. Environmental Protection Agency.

(l) "Importer" means any person who imports any chemical substance or any chemical substance as part of a mixture or article into the customs territory of the U.S. and includes: (1) The person primarily liable for the payment of any duties on the merchandise, or (2) an authorized agent acting on his behalf (as defined in 19 CFR 1.11).

(m) "Impurity" means a chemical substance which is unintentionally present with another chemical substance.

(n) "Intermediate" means any chemical substance (1) which is intentionally removed from the equipment in which it is manufactured, and (2) which either is consumed in whole or in part in chemical reaction(s) used for the intentional manufacture of other chemical substance(s) or mixture(s), or is intentionally present for the purpose of altering the rate of such chemical reaction(s).

NOTE.—The "equipment in which it was manufactured" includes the reaction vessel in which the chemical substance was manufactured and other equipment which is strictly ancillary to the reaction vessel, and any other equipment through which the chemical substance may flow during a continuous flow process, but does not include tanks or other vessels in which the chemical substance is stored after its manufacture.

(o) "Manufacture" means to produce or manufacture in the United States or import into the customs territory of the United States.

(p) "Manufacture or import *'for commercial purposes'*" means to manufacture or import:

(1) For distribution in commerce, including for test marketing purposes, or

(2) For use by the manufacturer, including for use as an intermediate.

(q) "Mixture" means any combination of two or more chemical substances if the combination does not occur in nature and is not, in whole or in part, the result of a chemical reaction; except that "mixture" does include (1) any combination which occurs, in whole or in part, as a result of a chemical reaction if the combination could have been manufactured for commercial purposes without a chemical reaction at the time the chemical substances comprising the combination were combined and if, after the effective date of premanufacture notification requirements, none of the chemical substances comprising the combination is a new chemical substance, and (2) hydrates of a chemical substance or hydrated ions formed by association of a chemical substance with water.

(r) "New chemical substance" means any chemical substance which is not included in the inventory compiled and published under subsection 8(b) of the Act.

(s) "Person" means any natural or juridicial person including any individual, corporation, partnership, or association, any State or political subdivision thereof, or any municipality, any interstate body and any department, agency, or instrumentality of the Federal government.

(t) "Process" means the preparation of a chemical substance or mixture, after its manufacture, for distribution in commerce (1) in the same form or physical state as, or in a different form or physical state from, that in which it was received by the person so preparing such substance or mixture, or (2) as part of a mixture or article containing the chemical substance or mixture.

(u) "Process for 'commercial purposes'" means to process (1) for distribution in commerce, including for test marketing purposes, or (2) for use as an intermediate.

(v) "Processor" means any person who processes a chemical substance or mixture.

(w) "Site" means a contiguous property unit. Property divided only by a public right-of-way shall be considered one site. There may be more than one manufacturing plant on a single site. For the purposes of imported chemical substances, the site shall be the business address of the importer.

(x) "Small manufacturer or importer" means a manufacturer or importer whose total annual sales are less than $5,000,000, based upon the manufacturer's or importer's latest complete fiscal year as of January 1, 1978, except that no manufacturer or importer is a "small manufacturer or importer" with respect to any chemical substance which such person manufactured at one site or imported in quantities greater than 100,000 pounds during calendar year 1977. In the case of a company which is owned or controlled by another company, total annual sales shall be based on the total annual sales of the owned or controlled company, the parent company, and all companies owned or controlled by the parent company taken together.

NOTE.—The purpose of the exception to the definition is to ensure that manufacturers and importers report production volumes for all chemical substances which they manufactured at one site or imported in quantities equal to or greater than 100,000 pounds during calendar year 1977.

(y) "Small quantities for purposes of scientific experimentation or analysis or chemical research on, or analysis of, such substance or another substance, including any such research or analysis for the development of a product" (hereinafter sometimes shortened to "small quantities for research and development") means quantities of a chemical substance manufactured, imported, or processed or proposed to be manufactured, imported, or processed that (1) are no greater than reasonably necessary for such purposes and (2) after the publication of the revised inventory, are used by, or directly under the supervision of, a technically qualified individual(s).

NOTE.—Any chemical substances manufactured, imported or processed in quantities of less than 1,000 pounds annually shall be presumed to be manufactured, imported or processed for research and development purposes. No person may report for the inventory any chemical substance in such quantities unless that person can certify that the substance was not manufactured, imported, or processed solely in small quantities for research and development, as defined in this section.

(z) "State" means any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, the Canal Zone, American Samoa, the Northern Mariana Islands, or any other territory or possession of the United States.

(aa) "Technically qualified individual" means a person (1) who because of his education, training, or experience, or a combination of these factors, is capable of appreciating the health and environmental risks associated with the chemical substance which is used under his supervision, (2) who is responsible for enforcing appropriated methods of conducting scientific experimentation, analysis, or chemical research in order to minimize such risks, and (3) who is responsibile for the safety assessments and clearances related to the procurement, storage, use, and disposal of the chemical substance as may be appropriate or required within the scope of conducting the research and development activity. The responsibilities in clause (3) of this paragraph may be delegated to another individual, or other individuals, as long as each meets the criteria in clause (1) of this paragraph.

(bb) "Test marketing" means the distribution in commerce of no more than a predetermined amount of a chemical substance, mixture, or article containing that chemical substance or mixture, by a manufacturer or processor to no more than a defined number of potential customers to explore market capability in a competitive situation during a predetermined testing period prior to the broader distribution of that chemical substance, mixture or article in commerce.

(cc) "United States," when used in the geographic sense, means all of the States, territories, and possessions of the United States.

§ 710.3 Applicability; Reporting for the initial inventory and revised inventory: Who must report; who should report.

Based on reports from manufacturers and some importers of chemical substances, EPA will compile an initial inventory of chemical substances manufactured for commercial purposes. Paragraph (a) of this section identifies who must report for this initial inventory and who should report. After publication of the initial inventory, EPA will compile a revised inventory of chemical substances manufactured or processed for a commercial purpose based on reports from processors of chemical substances, and from importers of chemical substances as a part of mixtures or articles. Paragraph (b) of this section identifies who may report for this revised inventory. Paragraph (c) of this section identifies

the persons not subject to the initial inventory.

(a) *The initial inventory*—(1) *Domestic manufacturers who must report concerning chemical substances.* Any person who manufactured a chemical substance(s) in the United States for a commercial purpose during calendar year 1977 must report concerning:

(i) All chemical substances which that person manufactured in the United States during calendar year 1977 at each site for which:

(A) Thirty percent or more of the weight of the products distributed from that site consists of products of the types described under Standard Industrial Classification (SIC) Group 28 or 2911, or

(B) The total pounds of reportable chemical substances manufactured at that site equals one million pounds or more; and

(ii) Any chemical substance not reported under paragraph (a)(1)(i) of this section that was manufactured at a site during calendar year 1977 in quantities equal to or greater than 100,000 pounds.

NOTE.—Any person who is a "small manufacturer," as defined in § 710.2, and who has more than one site, is exempt from separately reporting the chemical substances manufactured at each site.

(2) *Importers who must report concerning chemical substances.* Any person who imported a chemical substance into the United States for a commercial purpose during calendar year 1977 must report concerning:

(i) All chemical substances which that person imported into the United States during calendar year 1977 if:

(A) Thirty percent or more of the weight of the products imported consists of products of the types described under Standard Industrial Classification (SIC) Group 28 or 2911, or

(B) The total pounds of reportable chemical substances imported equals one million pounds or more; and

(ii) Any chemical substance not reported under paragraph (a)(2)(i) of this section that was imported during calendar year 1977 in quantities equal to or greater than 100,000 pounds.

NOTE.—These reporting requirements include all chemical substances imported in bulk form, including in cans, bottles, drums, barrels, packages, tanks, bags and other containers, but do not include chemical substances imported as part of mixtures or articles.

(3) *Other manufacturers and importers who should report chemical substances.* (i) In order to ensure that a chemical substance is included in the initial inventory, any person who manufactures or imports, or who has manufactured or imported a chemical substance (including the importation of a chemical substance as part of a mixture or an article) for a commercial purpose since January 1, 1975, may report concerning that chemical substance.

(ii) Any person permitted to report under paragraph (a)(3) of this section may either report individually or, in accordance with § 710.5(f), authorize a trade association or other agent to report on his behalf.

(b) *Revised inventory.* (1) During the reporting period for the revised inventory (§ 710.6(c)), a person may report concerning a chemical substance which was not included in the initial inventory if:

(i) The person has processed or used the chemical substance (including use in the manufacture of a mixture or article containing that chemical substance) for a commercial purpose since January 1, 1975; or

(ii) The person has imported the chemical substance as part of a mixture or article for a commercial purpose since January 1, 1975.

(2) Any person permitted to report under paragraph (b) of this section either may report individually or, in accordance with § 710.5(f), may authorize a trade association or other agent to report on his behalf.

NOTE.—The premanufacture notification requirements of section 5(a)(1)(A) of the Act for manufacturers of new chemical substances and importers of new chemical substances in bulk will begin 30 days after the publication of the initial inventory and will apply to all chemical substances not included in the initial inventory. The premanufacture notification requirements of section 5(a)(1)(A) will not be applied to importers of chemical substances as part of a mixture until 30 days after publication of the revised inventory. In addition, section 15(2) of the Act as it relates to section 5(a)(1)(A) will not be applied to persons who process or use for a commercial purpose chemical substances not on the inventory until after publication of the revised inventory.

(c) *Persons not subject to the initial inventory.* Persons who have only processed or used a chemical substance for a commercial purpose are not subject to the initial inventory requirements.

§ 710.4 Scope of the inventory.

(a) *Chemical substances subject to these regulations.* Only chemical substances which are manufactured, imported, or processed "for a commercial purpose," as defined in § 710.2, are subject to these regulations.

(b) *Naturally occurring chemical substances automatically included.* Any chemical substance which is naturally occurring and (1) which is (i) unprocessed or (ii) processed only by manual, mechanical, or gravitational means; by dissolution in water; by flotation; or by heating solely to remove water; or

(2) which is extracted from air by any means, shall automatically be included in the inventory under the category "Naturally Occurring Chemical Substances." Examples of such substances are: raw agricultural commodities; water, air, natural gas, and crude oil; and rocks, ores, and minerals.

(c) *Substances excluded by definition or section 8 (b) of TSCA.* The following substances are excluded from the inventory:

(1) Any substance which is not considered a "chemical substance" as provided in subsection 3(2)(B) of the Act and in the definition of "chemical substance" in § 710.2(h);

(2) Any mixture as defined in § 710.2 (q);

NOTE.—A chemical substance that is manufactured as part of a mixture is subject to these reporting regulations. This exclusion applies only to the mixture and not to the chemical substances of which the mixture is comprised. The term "mixture" includes alloys, inorganic glasses, ceramics, frits, and cements, including Portland cement.

(3) Any chemical substance which is manufactured, imported, or processed solely in small quantities for research and development, as defined in § 710.2 (y); and

(4) Any chemical substance not manufactured, processed or imported for a commercial purpose since January 1, 1975.

(d) *Chemical substances excluded from the inventory.* The following chemical substances are excluded from the inventory. Although they are considered to be manufactured or processed for a commercial purpose for the purpose of section 8 of the Act, they are not manufactured or processed for distribution in commerce as chemical substances *per se* and have no commercial purpose separate from the substance, mixture, or article of which they may be a part.

NOTE.—In addition, chemical substances excluded here will not be subject to premanufacture notification under section 5 of the Act.

(1) Any impurity.

(2) Any byproduct which has no commercial purpose.

NOTE.—A byproduct which has commercial value only to municipal or private organizations who (i) burn it as a fuel, (ii) dispose of it as a waste, including in a landfill or for enriching soil, or (iii) extract component chemical substances which have commercial value, may be reported for the inventory, but will not be subject to premanufacturing notification under section 5 of the Act if not included.

(3) Any chemical substance which results from a chemical reaction that occurs incidental to exposure of another chemical substance, mixture, or article to environmental factors such as air, moisture, microbial organisms, or sunlight.

(4) Any chemical substance which results from a chemical reaction that occurs incidental to storage of another chemical substance, mixture, or article.

(5) Any chemical substance which results from a chemical reaction that occurs upon end use of other chemical substances, mixtures, or articles such as adhesives, paints, miscellaneous cleansers or other housekeeping products, fuels and fuel additives, water softening and treatment agents, photographic, films, batteries, matches, and safety flares, and which is not itself manufactured for distribution in commerce or for use as an intermediate.

(6) Any chemical substance which results from a chemical reaction that occurs upon use of curable plastic or rubber molding compounds, inks, drying oils, metal finishing compounds, adhesives, or paints; or other chemical

substances formed during manufacture of an article destined for the marketplace without further chemical change of the chemical substance except for those chemical changes that may occur as described elsewhere in this § 710.4(d).

(7) Any chemical substance which results from a chemical reaction that occurs when (i) a stabilizer, colorant, odorant, antioxidant, filler, solvent, carrier, surfactant, plasticizer, corrosion inhibitor, antifoamer or de-foamer, dispersant, precipitation inhibitor, binder, emulsifier, de-emulsifier, dewatering agent, agglomerating agent, adhesion promoter, flow modifier, pH neutralizer, sequesterant, coagulant, flocculant, fire retardant, lubricant, chelating agent, or quality control reagent functions as intended or (ii) a chemical substance, solely intended to impart a specific physicochemical characteristic, functions as intended.

(8) Chemical substances which are not intentionally removed from the equipment in which they were manufactured.

NOTE.—See note to definition of "intermediate" at § 710.2(n) for explanation of "equipment in which it was manufactured."

§ 710.5 How to report.

(a) *General instructions.* (1) Except for small manufacturers or small importers, any person who is required to report under § 710.3(a) (1) or (2) shall follow the reporting procedures of paragraphs (b), (c), and (d) of this section.

(2) Any person who reports under §710.3(a)(3) shall follow the reporting procedures of paragraphs (b), (c), (d) (1) and (d)(3) of this section. In addition, the Agency encourages these persons to report in accordance with paragraphs (d)(2) and (d)(4) of this section. A trade association or other agent may report aggregated production data under paragraph (d)(4) of this section.

(3) Any person who is required to report under § 710.3(a) (1) or (2) and who is a small manufacturer or small importer as defined in § 710.2 shall follow the reporting procedures of paragraphs (b), (c), and (d) (1) and (3) of this section except that such person is exempt from reporting production volume (for quantities less than 100,000 pounds) and site information.

(4) Any person who reports under section 710.3(b) shall follow the reporting procedures of paragraphs (b), (c), and (d)(1) of this section.

(b) *Reporting the identity of a chemical susbtance.* (1) Any person reporting under these regulations should first read and carefully follow the reporting instructions, "Reporting for the Chemical Substance Inventory," published by and available through EPA.

(2) To report a chemical substance, a person should first consult the TSCA Candidate List of Chemical Substances and any amendment to the Candidate List. For assistance in using the Candidate List, consult the "Guide to the Use of the TSCA Candidate List of Chemical Substances."

(3) All persons required to report except "small manufacturers and importers" must use a separate Form A, B, or C to report chemical substances for each site. Small manufacturers and importers may report several chemical substances manufactured at different sites on one form, as appropriate.

(4) To report a chemical substance found in the Candidate List, or in an amendment to the list, a person must complete, sign, and submit EPA inventory report Form A (EPA Form No. 7710–3A). All forms, A through D, have OMB No. 1585 77011.

(5) To report a chemical substance not found in the Candidate List, or in an amendment to the list, but for which there is a Chemical Abstracts Service (CAS) Registry Number, a person must complete, sign and submit EPA inventory report Form B (EPA Form No. 7710–3B).

(6) To report a chemical substance which is not found in the Candidate List, or in an amendment to the list, and for which there is no known CAS Registry Number, a person must complete, sign, and submit EPA inventory report Form C (EPA Form No. 7710–3C). Persons must describe chemical substances on Form C as specifically as possible, in accordance with the instructions published by EPA, "Reporting for the Chemical Substance Inventory."

(7) To report a chemical substance whose chemical identity is claimed to be confidential, a person must complete, sign, and submit EPA inventory report Form C (EPA Form No. 7710–3C). In addition, he must substantiate the claim that the chemical identity is confidential at the time he submits the form to EPA, in accordance with instructions published in "Reporting for the TSCA Inventory" and section 710.7.

NOTE.—The reporting instructions also describe a reporting Form D (EPA Form No. 7710–3D). This is for additional voluntary reports which may be submitted by any person who manufactures trademarked products comprised of chemical substances and is not a substitute for any of the reports required by these regulations.

(c) *Reporting polymers.* (1) To report a polymer a person must list in the description of the polymer composition at least those monomers used at greater than two percent (by weight) in the manufacture of the polymer.

(2) Those monomers used at two percent (by weight) or less in the manufacture of the polymer may be included as part of the description of the polymer composition.

NOTE.—The "percent (by weight)" of a monomer is the weight of the monomer expressed as a percentage of the weight of the polymeric chemical substance manufactured.

(d) *Reporting other information concerning a chemical substance.* (1) For purposes of the initial inventory, designate whether the person manufactures and/or imports the chemical substance. For purposes of the revised inventory, designate whether the person processes and/or imports the chemical substance.

(2) Report the site(s) at which the person manufactures and/or imports the chemical substance. The site, as defined in § 710.2(w), for importers is their business address.

(3) Designate whether the person manufactures and processes the chemical substances only within a site *and* does not distribute the chemical substance, or any mixture or article containing that substance, for commercial purposes outside that site.

NOTE.—This requirement does not apply to importers.

(4) Report the amount of the chemical substance which the person manufactured at each site and/or imported during calendar year 1977. For each substance, report the digit (e.g., 0 through 9) which corresponds to the appropriate volume range, according to the following table. Enter "N" in the space provided for production amounts if the person did not manufacture or import the substance during calendar year 1977. Small manufacturers or importers, as defined in § 710.2(x), should enter "X" in the space provided for production amounts of less than 100,000 pounds (45,400 kilograms). If a small manufacturer or importer reports these production amounts, that person shall enter both "X" and the appropriate digits (e.g., X0, X1, or X2). For other production ranges, do not include an "X" (e.g., 3 through 9). Trade associations or other agents should enter "A" in the space provided for production amounts. If trade associations or agents report production volumes, they should enter both "A" and the appropriate digits (e.g., A2 or A6).

(0) Less than 1,000 pounds; Less than 454 kilograms.
(1) 1,000 to 10,000 pounds; 454 to 4,540 kilograms.
(2) 10,000 to 100,000 pounds; 4,540 to 45,400 kilograms.
(3) 100,000 to 1 million pounds; 45,400 to 454,000 kilograms.
(4) 1 million to 10 million pounds; 454,000 to 4.54 million kilograms.
(5) 10 million to 50 million pounds; 4.54 million to 22.7 million kilograms.
(6) 50 million to 100 million pounds; 22.7 million to 45.4 million kilograms.
(7) 100 million to 500 million pounds; 45.4 million to 227 million kilograms.
(8) 500 million to 1 billion pounds; 227 million to 454 million kilograms.
(9) over 1 billion pounds; over 454 million kilograms.
(A) Trade associations or other agents.

(e) *Importers.* (1) Any importer who reports a chemical substance for the inventory may authorize the foreign supplier of the imported chemical substance(s) to report to EPA on his behalf, if both the foreign supplier and the importer sign the declarations provided on the reporting forms. A foreign supplier may authorize an agent to act in his behalf.

(2) The importer has the ultimate responsibility for reporting all information required by this Part and for the completeness and truthfulness of such information. If certain information is not or cannot be provided by the foreign supplier or his duly authorized agent, it must be provided by the importer.

(f) *Trade associations or other agents.* (1) A trade association or other agent may report on behalf of any person who is not required to report for the initial inventory under § 710.3 (a)(1) and (a)(2). Accordingly, a trade association or other agent may report on behalf of a manufacturer or importer of a chemical substance who chooses to report under § 710.3(a)(3), or any processor or user of a chemical substance, or any importer of a chemical substance as part of a mixture or an article who chooses to report under § 710.3(b).

(2) For every chemical substance reported by a trade association or other agent under this section, at least one manufacturer, importer or processor must have certified to that agent, and be able to document to EPA, in accordance with § 710.1(c), that the chemical substance was manufactured, imported, or processed for a commercial purpose since January 1, 1975.

§ 710.6 When to report.

(a) All reports for the initial inventory shall be submitted by May 1, 1978.

(b) All reports concerning chemical substances which are manufactured or imported for a commercial purpose for the first time during the period from May 1, 1978 to the effective date of premanufacture notification requirements shall be submitted when such manufacturing or importation begins.

(c) All reports for the revised inventory shall be submitted within 210 days after publication of the initial inventory.

§ 710.7 Confidentiality.

(a) A manufacturer, importer, or processor may claim that for a particular chemical substance any or all of the following items of information submitted under this Part are entitled to confidential treatment:

(1) Company name.

(2) Site.

(3) The specific chemical identity.

(4) Whether the chemical substance is manufactured, imported, or processed.

(5) Whether the chemical substance is manufactured and processed only within one site and not distributed for commercial purposes outside that site.

(6) The quantity manufactured, imported, or processed.

(b) Any claims of confidentiality must accompany the information at the time it is submitted to EPA. The claims must appear on the form on which the information is submitted to EPA and in the manner prescribed on the form. In addition, any claims of confidentiality must be substantiated at the time the information is submitted to EPA in the manner specified in the form instructions.

(c) Any information that is covered by a claim made as specified will be disclosed by EPA only to the extent permitted by, and by means of, the procedures set forth in this section and in Part 2 of this Title (41 FR 36902).

(d) If no claim accompanies information at the time it is submitted to EPA, the information may be made public by EPA without further notice to the submitter. Failure to provide substantiation of any claim asserted on the forms will be considered a waiver of the claim and will result in a determination that the information is not entitled to confidential treatment.

(e)(1) A claim of confidentiality may be asserted concerning the specific chemical identity of a particular chemical substance. This claim may be asserted by any submitter who believes that inclusion of the specific chemical identity on the inventory would reveal the trade secret fact that the particular chemical substance is manufactured or processed for commercial purposes.

(2) If a submitter asserts such a claim the submitter must

(i) Report the specific chemical identity,

(ii) Propose a generic chemical name which is only as generic as necessary to protect the confidential identity of the particular chemical substance,

(iii) Provide a detailed, written substantiation of the claim as specified in the reporting instructions,

(iv) Agree that EPA may disclose to a person with a *bona fide* intent to manufacture the substance (as defined in paragraph (g) of this section) the fact that the particular chemical substance is included in the inventory for purposes of TSCA section 5(a)(1)(A) premanufacture notification, and

(v) Have available, and agree to furnish to EPA upon request, for the particular chemical substance, either an X-ray diffraction pattern (in the case of inorganic substances) or a mass spectrum for the particular chemical substance (in the case of most other substances), a sample of the substance in its purest form, an elemental analysis, any additional or alternative spectra, or other data that may be required to resolve uncertainties with respect to the identity of the substance. Failure to meet any of these five requirements will be considered a waiver of the claim and will result in inclusion of the particular chemical identity on the inventory.

(f)(1) If a submitter asserts that the identity of a particular chemical substance should not be included on the inventory, the submitter has met the five requirements specified in paragraph (e) of this section, and the EPA General Counsel has made a determination, in accordance with Part 2 of this Title that the particular chemical identity should not appear on the inventory because inclusion would disclose a trade secret, EPA will publish a generic chemical name in an appendix to the inventory rather than place the specific chemical identity on the inventory. Publication of a generic name in the appendix does *not* create a category for purposes of the inventory. Any person proposing to manufacture a substance included in the appendix under a generic name must submit notice under section 5(a)(1)(A) of the Act unless specifically exempted by EPA (see paragraph (g) of this section).

(2) EPA will examine the generic chemical name proposed by the submitter claiming confidentiality.

(i) If EPA determines that the generic name proposed by the submitter asserting the claim is only as generic as necessary to protect the confidential identity of the particular chemical substance, EPA will place that generic name on the inventory.

(ii) If EPA determines that the generic name proposed by the submitter asserting the claim is more generic than necessary to protect the confidential identity, EPA will ask the submitter to submit further proposed generic names.

(iii) If EPA does not agree with the further proposed generic names, EPA will choose a generic name that EPA determines is only as generic as necessary to protect the confidential identity. EPA will give 30 days notice of this choice to the submitter asserting the claim. After the end of the 30-day period EPA will place the chosen generic name on the inventory.

(g)(1) If the particular chemical substance a person is proposing to manufacture is not included on the inventory by specific name but does fall within one of the generic chemical names in the appendix entitled "Confidential Identities," the person may ask EPA whether the specific substance is included on the inventory. EPA will answer such an inquiry only if EPA determines that the person has a *bona fide* intent to manufacture the substance.

(2) In order to establish a *bona fide* intent to manufacture the specific chemical substance the person proposing to manufacture the chemical substance must submit to EPA:

(i) A signed statement that that person intends to manufacture the substance for commercial purposes,

(ii) A description of the research and development activities he has conducted to date and the purposes for which the substance will be manufactured,

(iii) An elemental analysis,

(iv) Either an X-ray diffraction pattern (in the case of inorganic substances) or a mass spectrum (in the case of most other substances) of the particular chemical substance,

(v) A sample of the substance in its purest form, if requested, and

(vi) Any additional or alternative spectra, or other data that may be required to resolve uncertainities with respect to the identity of the chemical substance.

(3) (i) Upon receipt of the information specified in paragraph (g)(2) of this section, EPA may require the submitter who asserted the confidentiality claim for a specific chemical substance within the generic name to submit to EPA:

(A) Either an X-ray diffraction pattern or a mass or alternative spectrum for the substance,

(B) An elemental analysis of the substance,

(C) A sample of the substance in its purest form, if requested, and

(D) Any additional spectral or other data that may be required to resolve un-

certainties with respect to the identity of the substance.

(ii) Failure to submit any of the information required by EPA under this pargraph (g)(3) will be construed as a waiver of the submitter's confidentiality claim, and EPA will place the specific chemical identity on the inventory without further notice to the submitter.

(4) EPA will compare the information submitted by the proposed manufacturer under paragraph (g)(2) of this section with the information submitted under paragraph (g)(3) of this section.

(5) If (i) the comparison of the elemental analyses and either the X-ray diffraction patterns or mass or alternative spectra is sufficiently similar to be consistent with a presumption that the chemical substances are the same, and (ii) comparison of any of the other submitted information affirms this presumption, EPA will tell the person proposing to manufacture the particular chemical substance that the particular chemical substance is included on the inventory and, therefore, that premanufacture notification is not required.

(6) If (i) the comparison of either the X-ray diffraction patterns or the mass or alternative spectra is not sufficiently similar to be consistent with a presumption that the chemical substances are the same, and (ii) comparison of the other information affirms this conclusion, EPA will tell the person proposing to manufacture the particular substance that the information submitted does not support a conclusion that the substance is included on the inventory, and, therefore, that premanufacture notification is required.

(7) A disclosure to a person with a *bona fide* intent to manufacture a particular chemical substance will not be considered a public disclosure.

§ 710.8 Effective date.

These regulations shall take effect on January 1, 1978.

APPENDIX 2

Standard Industrial Classification (SIC)
Groups 28 and 2911

This appendix contains a list of the types of establishments which comprise SIC Groups 28 and 2911, and the types of products which are manufactured at these establishments. If thirty (30) percent or more (by net weight) of all products distributed for a commercial purpose from a manufacturing site are of the types described in this appendix, reporting is required for all reportable chemical substances manufactured at that site. If thirty (30) percent or more (by net weight) of all products imported by a person for a commercial purpose are of the types described in this appendix, reporting is required for all reportable chemical substances imported in bulk form.

STANDARD INDUSTRIAL CLASSIFICATION

Major Group 28.—CHEMICALS AND ALLIED PRODUCTS

The Major Group as a Whole

This major group includes establishments producing basic chemicals, and establishments manufacturing products by predominantly chemical processes. Establishments classified in this major group manufacture three general classes of products: (1) basic chemicals such as acids, alkalies, salts, and organic chemicals; (2) chemical products to be used in further manufacture such as synthetic fibers, plastics materials, dry colors, and pigments; (3) finished chemical products to be used for ultimate consumption such as drugs, cosmetics, and soaps; or to be used as materials or supplies in other industries such as paints, fertilizers, and explosives. The mining of natural rock salt is classified in mining industries. Establishments primarily engaged in manufacturing nonferrous metals and high percentage ferroalloys are classified in Major Group 33; silicon carbide in Major Group 32; baking powder, other leavening compounds, and starches in Major Group 20; and artists' colors in Major Group 39. Establishments primarily engaged in packaging, repackaging, and bottling of purchased chemical products, but not engaged in manufacturing chemicals and allied products, are classified in trade industries.

Group No.	Industry No.	
281		INDUSTRIAL INORGANIC CHEMICALS

This group includes establishments primarily engaged in manufacturing basic industrial inorganic chemicals. Establishments primarily engaged in manufacturing formulated agricultural pesticides are classified in Industry 2879; medicinal chemicals, drugs and medicines in Industry 2833; and soap and cosmetics in Group 284.

2812 Alkalies and Chlorine

Establishments primarily engaged in manufacturing alkalies and chlorine.

Alkalies
Carbonates, potassium and sodium
Caustic potash
Caustic soda
Chlorine, compressed or liquefied
Potassium carbonate
Potassium hydroxide
Sal soda
Soda ash
Sodium bicarbonate
Sodium carbonate (soda ash)
Sodium hydroxide (caustic soda)

Standard Industrial Classification Manual 1972, Washington, D.C., Office of Management & Budget, Superintendent of Documents, U.S. Government Printing Office, 1972.

2813 Industrial Gases

Establishments primarily engaged in manufacturing gases for sale in compressed, liquid, and solid forms. Establishments primarily engaged in manufacturing fluorine and sulfur dioxide are classified in Industry 2819; household ammonia in Industry 2842, and other ammonia in Industry 2873; and chlorine in Industry 2812. Distributors of industrial gases and establishments primarily engaged in shipping liquid oxygen are classified in trade.

Acetylene
Argon
Carbon dioxide
Dry ice (solid carbon dioxide)
Gases, industrial: compressed, liquefied, or solid—*mfpm*
Helium
Hydrogen
Neon
Nitrogen
Nitrous oxide
Oxygen, compressed and liquefied

2816 Inorganic Pigments

Establishments primarily engaged in manufacturing inorganic pigments. Important products of this industry include black pigments (except carbon black, Industry 2895), white pigments and color pigments. Organic color pigments, except animal black and bone black, are classified in Industry 2865.

Animal black
Barium sulfate, precipitated (blanc fixé)
Barytes pigments
Black pigments, except carbon black
Blanc fixé (barium sulfate, precipitated)
Bone black
Chrome pigments: chrome green, chrome yellow, chrome orange, zinc yellow
Color pigments, inorganic
Iron blue pigment
Iron colors
Iron oxide, black
Iron oxide, magnetic
Iron oxide, yellow
Lamp black
Lead oxide pigments
Lead pigments
Litharge
Lithopone
Metallic pigments, inorganic
Mineral colors and pigments
Minium (pigment)
Ochers
Paint pigments, inorganic
Pearl essence
Pigments, inorganic
Prussian blue pigments
Red lead pigment
Satin white pigment
Siennas
Titanium pigments
Ultramarine pigment
Umbers
Vermilion pigment
White lead pigments
Whiting
Zinc oxide pigments
Zinc pigments: zinc yellow and zinc sulphide

2819 Industrial Inorganic Chemicals, Not Elsewhere Classified

Establishments primarily engaged in manufacturing industrial inorganic chemicals, not elsewhere classified. Important products of this industry include inorganic salts of sodium (excluding refined sodium chloride), potassium, aluminum, calcium, chromium, magnesium, mercury, nickel, silver, tin; inorganic compounds such as alums, calcium carbide, hydrogen peroxide, sodium silicate, ammonia compounds (except fertilizers), rare earth metal salts and elemental bromine, fluorine, iodine, phosphorus, and alkali metals (sodium, potassium, lithium, etc.). Establishments primarily engaged in mining, milling, or otherwise preparing natural potassium, sodium, or boron compounds (other than common salt) are classified in Industry 1474. Establishments primarily engaged in manufacturing household bleaches are classified in Industry 2842; phosphoric acid in Industry 2874; and nitric acid, anhydrous ammonia and other nitrogenous fertilizer materials in Industry 2873.

Activated carbon and charcoal
Alkali metals
Alumina
Aluminum chloride
Aluminum compounds
Aluminum hydroxide (alumina trihydrate)
Aluminum oxide
Aluminum sulfate
Alums
Ammonia alum
Ammonium chloride, hydroxide, and molybdate
Ammonium compounds, except for fertilizer
Ammonium perchlorate
Ammonium thiosulfate
Barium compounds
Bauxite, refined
Beryllium oxide
Bleaching powder
Borax (sodium tetraborate)
Boric acid
Boron compounds, not produced at mines
Borosilicate
Brine
Bromine, elemental
Caesium metal
Calcium carbide, chloride, and hypochlorite
Calcium compounds, inorganic
Calcium metal
Calomel
Carbide
Catalysts, chemical
Cerium salts
Charcoal, activated
Chlorosulfonic acid
Chromates and bichromates
Chromic acid
Chromium compounds, inorganic
Chromium salts
Cobalt chloride
Cobalt 60 (radioactive)
Cobalt sulfate
Copper chloride
Copper iodide and oxide
Copper sulfate
Cyanides
Desiccants, activated: silica gel
Dichromates
Ferric chloride
Ferrocyanides

Group No. 281 — INDUSTRIAL INORGANIC CHEMICALS—Continued

Industry No. 2819 — Industrial Inorganic Chemicals, Not Elsewhere Classified—Continued

Fissionable material production
Fluorine, elemental
Fuel propellants, solid: inorganic
Fuels, high energy: inorganic
Glauber's salt
Heavy water
High purity grade chemicals, inorganic: refined from technical grades
Hydrated alumina silicate powder
Hydrochloric acid
Hydrocyanic acid
Hydrofluoric acid
Hydrogen peroxide
Hydrogen sulfide
Hydrosulfites
Hypophosphites
Indium chloride
Inorganic acids, except nitric or phosphoric
Iodides
Iodine, elemental
Iodine, resublimed
Iron sulphate
Isotopes, radioactive
Laboratory chemicals, inorganic
Lead oxides, other than pigments
Lead silicate
Lime bleaching compounds
Lithium compounds
Lithium metal
Luminous compounds, radium
Magnesium carbonate
Magnesium chloride
Magnesium compounds, inorganic
Manganese dioxide powder, synthetic
Mercury chlorides (calomel, corrosive, sublimate), except U.S.P.
Mercury compounds, inorganic
Mercury oxides
Mercury, redistilled
Metals, liquid
Mixed acid
Muriate of potash, not produced at mines
Nickel ammonium sulfate
Nickel carbonate
Nickel compounds, inorganic
Nickel sulfate
Nuclear cores, inorganic
Nuclear fuel reactor cores, inorganic
Nuclear fuel scrap reprocessing
Oleum (fuming sulfuric acid)
Oxidation catalyst made from porcelain
Perchloric acid
Peroxides, inorganic
Phosphates, except defluorinated and ammoniated
Phosphorus and phosphorus oxychloride
Potash alum
Potassium aluminum sulfate
Potassium bichromate and chromate
Potassium bromide
Potassium chlorate
Potassium chloride and cyanide
Potassium compounds, inorganic: except potassium hydroxide and carbonate
Potassium cyanide
Potassium hypochlorate
Potassium iodide
Potassium metal
Potassium nitrate and sulfate
Potassium permanganate
Propellants for missiles, solid: inorganic
Radium chloride
Radium luminous compounds
Rare earth metal salts
Reagent grade chemicals, inorganic: refined from technical grades
Rubidium metal
Salt cake (sodium sulfate)
Salts of rare earth metals
Scandium
Silica, amorphous
Silica gel
Silicofluorides
Silver bromide, chloride, and nitrate
Silver compounds, inorganic
Soda alum
Sodium aluminate
Sodium aluminum sulfate
Sodium antimoniate
Sodium bichromate and chromate
Sodium borates
Sodium borohydride
Sodium bromide, not produced at mines
Sodium chlorate
Sodium compounds, inorganic
Sodium cyanide
Sodium hydrosulfite
Sodium, metallic
Sodium molybdate
Sodium perborate
Sodium peroxide
Sodium phosphate
Sodium polyphosphate
Sodium silicate
Sodium silicofluoride
Sodium stannate
Sodium sulfate—bulk or tablets
Sodium tetraborate, not produced at mines
Sodium thiosulfate
Sodium tungstate
Sodium uranate
Stannic and stannous chloride
Strontium carbonate, precipitated, and oxide
Strontium nitrate
Sublimate, corrosive
Sulfate of potash and potash magnesia, not produced at mines
Sulfides and sulfites
Sulfocyanides
Sulfur chloride
Sulfur dioxide
Sulfur hexafluoride gas
Sulfur, recovered or refined, including from sour natural gas
Sulfuric acid
Tanning agents, synthetic inorganic
Thiocyanates, inorganic
Tin chloride
Tin compounds, inorganic
Tin oxide
Tin salts
Uranium slug, radioactive
Water glass
Zinc chloride

Group No. 282 — PLASTICS MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBER, SYNTHETIC AND OTHER MAN-MADE FIBERS, EXCEPT GLASS

This group includes chemical establishments primarily engaged in manufacturing plastics materials and synthetic resins, synthetic rubbers, and cellulosic and man-made organic fibers. Establishments primarily engaged in the manufacture of rubber products, and those primarily engaged in the compounding of purchased resins or the fabrication of plastics sheets, rods, and miscellaneous plastics products, are classified in Major Group 30. Establishments and textile mills primarily engaged in throwing, spinning, weaving, or knitting textile products from manufactured fibers are classified in Major Group 22.

282 PLASTICS MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBER, SYNTHETIC AND OTHER MAN-MADE FIBERS, EXCEPT GLASS—Continued

2821 Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers

Establishments primarily engaged in manufacturing synthetic resins, plastics materials, and nonvulcanizable elastomers. Important products of this industry include: cellulose plastic materials; phenolic and other tar acid resins; urea and melamine resins; vinyl resins; styrene resins; alkyd resins; acrylic resins; polyethylene resins; polypropylene resins; rosin modified resins; coumarone-indene and petroleum polymer resins; and miscellaneous resins including polyamide resins, silicones, polyisobutylenes, polyesters, polycarbonate resins, acetal resins, fluorohydrocarbon resins; and casein plastics. Establishments primarily engaged in manufacturing fabricated plastics products or plastics film, sheet, rod, nontextile monofilaments and regenerated cellulose products, and vulcanized fiber are classified in Industry 3079, whether from purchased resins or from resins produced in the same plant. Establishments primarily engaged in compounding purchased resins are also classified in Industry 3079. Establishments primarily manufacturing adhesives are classified in Industry 2891.

Acetal resins
Acetate, cellulose (plastics)
Acrylic resins
Acrylonitrile-butadiene-styrene resins
Alcohol resins, polyvinyl
Alkyd resins
Allyl resins
Butadiene copolymers, containing less than 50% butadiene
Carbohydrate plastics
Casein plastics
Cellulose nitrate resins
Cellulose propionate (plastics)
Coal tar resins
Condensation plastics
Coumarone-indene resins
Cresol-furfural resins
Cresol resins
Dicyandiamine resins
Diisocyanate resins
Elastomers, nonvulcanizable (plastics)
Epichlorohydrin bisphenol
Epichlorohydrin diphenol
Epoxy resins
Ester gum
Ethyl cellulose plastics
Ethylene-vinyl acetate resins
Fluorohydrocarbon resins
Ion exchange resins
Ionomer resins
Isobutylene polymers
Lignin plastics
Melamine resins
Methyl acrylate resins
Methyl cellulose plastics
Methyl methacrylate resins
Molding compounds, plastics
Nitrocellulose plastics (pyroxylin)
Nylon resins
Petroleum polymer resins
Phenol-furfural resins
Phenolic resins
Phenoxy resins
Phthalic alkyd resins
Phthalic anhydride resins
Polyacrylonitrile resins
Polyamide resins
Polycarbonate resins
Polyesters
Polyethylene resins
Polyhexamethylenediamine adipamide resins
Polyisobutylenes
Polymerization plastics, except fibers
Polypropylene resins
Polystyrene resins
Polyurethane resins
Polyvinyl chloride resins
Polyvinyl halide resins
Polyvinyl resins
Protein plastics
Pyroxylin
Resins, phenolic
Resins, synthetic: coal tar and noncoal tar
Rosin modified resins
Silicone fluid solution (fluid for sonar transducers)
Silicone resins
Soybean plastics
Styrene resins
Styrene-acrylonitrile resins
Tar acid resins
Urea resins
Vinyl resins

2822 Synthetic Rubber (Vulcanizable Elastomers)

Establishments primarily engaged in manufacturing synthetic rubber by polymerization or copolymerization. An elastomer for the purpose of this classification is a rubber-like material capable of vulcanization, such as copolymers of butadiene and styrene, or butadiene and acrylonitrile, polybutadienes, chloroprene rubbers, and isobutylene-isoprene copolymers. Butadiene copolymers containing less than 50% butadiene are classified in Industry 2821. Natural chlorinated rubbers and cyclized rubbers are considered as semifinished products and are classified in Industry 3069.

Acrylate type rubbers
Acrylate-butadiene rubbers
Acrylic rubbers
Adiprene
Butadiene-acrylonitrile copolymers (over 50% butadiene)
Butadiene rubbers
Butadiene-styrene copolymers (over 50% butadiene)
Butyl rubber
Chlorinated rubbers, synthetic
Chloroprene type rubbers
Chlorosulfonated polyethylenes
Cyclo rubbers, synthetic
EPDM polymers
Elastomers, vulcanizable (synthetic rubber)
Epichlorohydrin elastomers
Estane
Ethylene-propylene rubbers
Fluoro rubbers
Fluorocarbon derivative rubbers
Hypalon
Isobutylene-isoprene rubbers
Isocyanate type rubber
Isoprene rubbers, synthetic
Neoprene
Nitrile-butadiene rubbers
Nitrile-chloroprene rubbers
Nitrile type rubber
N-type rubber
Polybutadienes
Polyethylenes, chlorosulfonated
Polyisobutylene-isoprene elastomers
Polyisobutylene (synthetic rubber)
Polymethylene rubbers
Polysulfides
Pyridine-butadiene copolymers
Pyridine-butadiene rubbers
Rubber, synthetic
Silicone rubbers
S-type rubber
Stereo regular elastomers
Styrene-butadiene rubbers (50% or less styrene content)
Styrene-chloroprene rubbers
Styrene-isoprene rubbers
Thiol rubbers
Urethane rubbers
Vulcanized oils

2823 Cellulosic Man-Made Fibers

Establishments primarily engaged in manufacturing cellulosic fibers (including cellulose acetate and regenerated cellulose such as rayon by the viscose or cuprammonium process) in the form of monofilament, yarn, staple or tow suitable for further manufacturing on spindles, looms, knitting machines or other textile processing equipment. Establishments primarily engaged in manufacturing textile glass fibers are classified in Industry 3229.

Acetate fibers
Cellulose acetate monofilament, yarn, staple, or tow
Cellulose fibers, man-made
Cigarette tow, cellulosic fiber
Cuprammonium fibers
Fibers, cellulose man-made
Fibers, rayon
Horsehair, artificial: rayon
Nitrocellulose fibers
Rayon primary products: fibers, straw, strips, and yarn
Rayon yarn, made in chemical plants (primary products)
Regenerated cellulose fibers
Triacetate fibers
Viscose fibers, bands, strips, and yarn
Yarn, cellulosic: made in chemical plants (primary products)

Group No. Industry No.

282 PLASTICS MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBER, SYNTHETIC AND OTHER MAN-MADE FIBERS, EXCEPT GLASS—Continued

2824 Synthetic Organic Fibers, Except Cellulosic

Establishments primarily engaged in manufacturing synthetic organic fibers, except cellulosic (including those of regenerated proteins, and of polymers or copolymers of such components as vinyl chloride, vinylidene chloride, linear esters, vinyl alcohols, acrylonitrile, ethylenes, amides, and related polymeric materials) in the form of monofilament, yarn, staple or tow suitable for further manufacturing on spindles, looms, knitting machines or other textile processing equipment. Establishments primarily engaged in manufacturing textile glass fibers are classified in Industry 3229.

Acrylic fibers
Acrylonitrile fibers
Anidex fibers
Casein fibers
Elastomeric fibers
Fibers, man-made: except cellulosic
Fluorocarbon fibers
Horsehair, artificial: nylon
Linear esters fibers
Modacrylic fibers
Nylon fibers and bristles
Olefin fibers
Organic fibers, synthetic: except cellulosic
Polyester fibers
Polyvinyl ester fibers
Polyvinylidene chloride fibers
Protein fibers
Saran fibers
Soybean fibers (man-made textile materials)
Vinal fibers
Vinylidene chloride fibers
Yarn, organic man-made fiber except cellulosic
Zein fibers

283 DRUGS

This group includes establishments primarily engaged in manufacturing, fabricating, or processing medicinal chemicals and pharmaceutical products. Also included in this group are establishments primarily engaged in the grading, grinding, and milling of botanicals.

2831 Biological Products

Establishments primarily engaged in the production of bacterial and virus vaccine, toxoids and analogous products (such as allergenic extracts), serums, plasmas, and other blood derivatives for human or veterinary use.

Agar culture media
Aggressins
Allergenic extracts
Allergens
Antigens
Anti-hog-cholera serums
Antiserums
Antitoxins
Antivenom
Bacterial vaccines
Bacterins
Bacteriological media
Biological and allied products: antitoxins, bacterins, vaccines, viruses
Blood derivatives, for human or veterinary use
Culture media or concentrates
Diagnostic agents, biological
Diphtheria toxin
Plasmas
Pollen extracts
Serobacterins
Serums
Toxins
Toxoids
Tuberculins
Vaccines
Venoms
Viruses

2833 Medicinal Chemicals and Botanical Products

Establishments primarily engaged in (1) manufacturing bulk organic and inorganic medicinal chemicals and their derivatives; and (2) processing (grading, grinding, and milling) bulk botanical drugs and herbs. Establishments primarily engaged in manufacturing agar-agar and similar products of natural origin, endocrine products, manufacturing or isolating basic vitamins, and isolating active medicinal principals such as alkaloids from botanical drugs and herbs are also included in this industry.

Adrenal derivatives: bulk, uncompounded
Agar-agar (ground)
Alkaloids and salts
Anesthetics, in bulk form
Antibiotics: bulk uncompounded
Atropine and derivatives
Barbituric acid and derivatives: bulk, uncompounded
Botanical products, medicinal: ground, graded, and milled
Brucine and derivatives

2833 Medicinal Chemicals and Botanical Products—Continued

Caffeine and derivatives
Chemicals, medicinal: organic and inorganic—bulk, uncompounded
Cinchona and derivatives
Cocaine and derivatives
Codeine and derivatives
Digitoxin
Drug grading, grinding, and milling
Endocrine products
Ephedrine and derivatives
Ergot alkaloids
Fish liver oils, refined and concentrated for medicinal use
Gland derivatives: bulk, uncompounded
Herb grinding, grading, and milling
Hormones and derivatives
Insulin: bulk, uncompounded
Kelp plants
Mercury chlorides, U.S.P.
Mercury compounds, medicinal: organic and inorganic
Morphine and derivatives
N-methylpiperazine
Oils, vegetable and animal: medicinal grade—refined and concentrated
Opium derivatives
Ox bile salts and derivatives: bulk, uncompounded
Penicillin: bulk, uncompounded
Physostigmine and derivatives
Pituitary gland derivatives: bulk, uncompounded
Procaine and derivatives: bulk, uncompounded
Quinine and derivatives
Reserpines
Salicylic acid derivatives, medicinal grade
Strychnine and derivatives
Sulfa drugs
Sulfonamides
Theobromine
Vegetable gelatin (agar-agar)
Vegetable oils, medicinal grade: refined and concentrated
Vitamins, natural and synthetic: bulk, uncompounded

Group No. Industry No.

283 DRUGS—Continued

2834 Pharmaceutical Preparations

Establishments primarily engaged in manufacturing, fabricating, or processing drugs in pharmaceutical preparations for human or veterinary use. The greater part of the products of these establishments are finished in the form intended for final consumption, such as ampuls, tablets, capsules, vials, ointments, medicinal powders, solutions, and suspensions. Products of this industry consist of two important lines, namely: (1) pharmaceutical preparations promoted primarily to the dental, medical, or veterinary professions; and (2) pharmaceutical preparations promoted primarily to the public.

- Adrenal pharmaceutical preparations
- Analgesics
- Anesthetics, packaged
- Antacids
- Anthelmintics
- Antibiotics, packaged
- Antihistamine preparations
- Antipyretics
- Antiseptics, medicinal
- Astringents, medicinal
- Barbituric acid pharmaceutical preparations
- Belladonna pharmaceutical preparations
- Botanical extracts: powdered, pilular, solid, and fluid
- Chapsticks
- Chlorination tablets and kits (water purification)
- Cold remedies
- Cough medicines
- Cyclopropane for anesthetic use (U.S.P. par N.F.), packaged
- Dextrose and sodium chloride injection, mixed
- Dextrose injection
- Digitalis pharmaceutical preparations
- Diuretics
- Druggists' preparations (pharmaceuticals)
- Effervescent salts
- Emulsifiers, fluorescent inspection
- Emulsions, pharmaceutical
- Ether for anesthetic use
- Fever remedies
- Galenical preparations
- Hormone preparations
- Insulin preparations
- Intravenous solutions
- Iodine, tincture of
- Laxatives
- Liniments
- Lozenges, pharmaceutical
- Medicines, capsuled or ampuled
- Nitrofuran preparations
- Nitrous oxide for anesthetic use
- Ointments
- Parenteral solutions
- Penicillin preparations
- Pharmaceuticals
- Pills, pharmaceutical
- Pituitary gland pharmaceutical preparations
- Poultry and animal remedies
- Powders, pharmaceutical
- Procaine pharmaceutical preparations
- Proprietary drug products
- Remedies, human and animal
- Sirups, pharmaceutical
- Sodium chloride solution for injection, U.S.P.
- Sodium salicylate tablets
- Solutions, pharmaceutical
- Spirits, pharmaceutical
- Suppositories
- Tablets, pharmaceutical
- Thyroid preparations
- Tinctures, pharmaceutical
- Tranquilizers and mental drug preparations
- Vermifuges
- Veterinary pharmaceutical preparations
- Vitamin preparations
- Water decontamination or purification tablets
- Water, sterile: for injections
- Zinc ointment

284 SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS

This group includes establishments primarily engaged in manufacturing soap and other detergents and in producing glycerin from vegetable and animal fats and oils; specialty cleaning, polishing, and sanitation preparations; and surface active preparations used as emulsifiers, wetting agents, and finishing agents, including sulfonated oils; and perfumes, cosmetics, and other toilet preparations.

2841 Soap and Other Detergents, Except Specialty Cleaners

Establishments primarily engaged in manufacturing soap, synthetic organic detergents, inorganic alkaline detergents, or any combination thereof, and establishments producing crude and refined glycerin from vegetable and animal fats and oils. Establishments primarily engaged in manufacturing shampoos or shaving products, whether from soap or synthetic detergents, are classified in Industry 2844; and synthetic glycerin in Industry 2869.

- Detergents, synthetic organic and inorganic alkaline
- Dye removing cream, soap base
- Foots soap
- Glycerin, crude and refined: from fats—except synthetic
- Mechanics' paste
- Scouring compounds
- Soap: granulated, liquid, cake, flaked, and chip
- Textile soap
- Washing compounds

2842 Specialty Cleaning, Polishing, and Sanitation Preparations

Establishments primarily engaged in manufacturing furniture, metal, and other polishes; waxes and dressings for fabricated leather and other materials; household, institutional and industrial plant disinfectants, deodorants; dry cleaning preparations; household bleaches; and other sanitation preparations. Establishments primarily manufacturing household pesticidal preparations are classified in Industry 2879.

- Ammonia, household
- Aqua ammonia, household
- Beeswax, processing of
- Belt dressing
- Blackings
- Bleaches, household: liquid or dry
- Burnishing ink
- Chlorine bleaching compounds, household: liquid or dry
- Cleaning and polishing preparations
- Cloths, dusting and polishing: chemically treated
- Degreasing solvent
- Deodorants, nonpersonal
- Disinfectants, household and industrial plant
- Drain pipe solvents and cleaners
- Dressings for fabricated leather and other materials
- Dry cleaning preparations
- Dust mats, gelatin
- Dusting cloths, chemically treated
- Dye removing cream, petroleum base
- Floor wax emulsion
- Floor waxes
- Furniture polish and wax
- Harness dressing
- Household bleaches, dry or liquid
- Industrial plant disinfectants and deodorants
- Ink, burnishing
- Ink eradicators
- Leather dressings and finishes
- Lye, household
- Paint and wallpaper cleaners
- Polishes: furniture, automobile, metal, shoe, and stove
- Polishing and cleaning preparations
- Re-refining dry-cleaning fluid
- Rug, upholstery, and dry cleaning detergents and spotters
- Rust removers
- Saddle soap
- Sanitation preparations
- Shoe cleaners and polishes
- Sodium hypochlorite
- Stain removers
- Starches, plastic
- Sweeping compounds, oil and water absorbent, clay or sawdust
- Wallpaper cleaners
- Wax removers
- Waxes for wood, fabricated leather, and other materials

Group No. Industry No.

284 SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS—Continued

2843 Surface Active Agents, Finishing Agents, Sulfonated Oils and Assistants

Establishments primarily engaged in producing surface active preparations for use as wetting agents, emulsifiers, and penetrants. Establishments engaged in producing sulfonated oils and fats and related products are also included.

Assistants, textile and leather processing
Calcium salts of sulfonated oils, fats, or greases
Cod oil, sulfonated
Emulsifiers, except food and pharmaceutical
Finishing agents, textile and leather
Leather finishing agents
Mordants
Oil, turkey red
Oils, soluble (textile assistants)
Penetrants
Sodium salts of sulfonated oils, fats, or greases
Softeners (textile assistants)
Soluble oils and greases
Sulfonated oils, fats and greases
Surface active agents
Textile processing assistants
Textile scouring compounds and wetting agents
Thin water (admixture)

2844 Perfumes, Cosmetics, and Other Toilet Preparations

Establishments primarily engaged in manufacturing perfumes (natural and synthetic), cosmetics, and other toilet preparations. This industry also includes establishments primarily engaged in blending and compounding perfume bases; and those manufacturing shampoos and shaving products, whether from soap or synthetic detergents. Establishments primarily engaged in manufacturing synthetic perfume and flavoring materials are classified in Industry 2869, and essential oils in Industry 2899.

Bath salts
Bay rum
Body powder
Colognes
Concentrates, perfume
Cosmetic creams
Cosmetic lotions and oils
Cosmetics
Cuprasol
Dentifrices
Denture cleaners
Deodorants, personal
Depilatories (cosmetic)
Dressings, cosmetic
Face creams and lotions
Face powders
Home permanent kits
Lipsticks
Manicure preparations
Mouth washes
Perfume bases, blending and compounding
Perfumes, natural and synthetic
Powder: baby, face, talcum, and toilet
Rouge, cosmetic
Sachet
Shampoos
Shaving preparations: cakes, creams, lotions, powders, tablets, etc.
Talcum powders
Toilet creams, powders, and waters
Toilet preparations
Tooth pastes and powders
Washes, cosmetic

285 PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS

2851 Paints, Varnishes, Lacquers, Enamels, and Allied Products

Establishments primarily engaged in manufacturing paints (in paste and ready mixed form); varnishes; lacquers; enamels and shellac; putties, wood fillers and sealers; paint and varnish removers; paint brush cleaners and allied paint products. Establishments primarily engaged in manufacturing carbon black are classified in Industry 2895; bone black, lamp black, and inorganic color pigments in Industry 2816; organic color pigments in Industry 2865; plastics materials in Industry 2821; printing ink in Industry 2893; calking compounds and sealants in Industry 2891; and artists' paints in Industry 3952.

Calcimines, dry and paste
Cleaners, paint brush
Coating, air curing
Colors in oil, except artists'
Dispersions, thermoplastic and colloidal: paint
Dopes (paint)
Driers, paint
Enamels, except dental and china painting
Epoxy coatings, made from purchased resin
Fillers, wood: dry, liquid, and paste
Intaglio ink vehicle
Japans, baking and drying
Kalsomines, dry or paste
Lacquer bases and dopes
Lacquer, clear and pigmented
Lacquer thinner
Lacquers, plastic
Lead-in-oil paints
Linoleates (paint driers)
Lithographic varnishes
Marine paints
Naphthanate driers
Oleate driers
Paint brush cleaners
Paint driers
Paint removers
Paints, asphalt and bituminous

Group No. | Industry No.

285 PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS—Con.

2851 Paints, Varnishes, Lacquers, Enamels, and Allied Products—Continued

Paints: oil and alkyd vehicle, and water thinned
Paints, plastic texture: paste and dry
Paints, waterproof
Phenol formaldehyde coatings, baking and air curing
Plastics base paints and varnishes
Plastisol coating compound
Polyurethane coatings
Primers, paint
Putty
Resinate driers
Shellac (protective coating)
Soyate driers
Stains: varnish, oil, and wax
Tallate driers
Undercoatings, paint
Varnish removers
Varnishes
Vinyl coatings, strippable
Vinyl plastisol
Water paints
Wood fillers and sealers
Wood stains
Zinc oxide in oil (paint)

286 INDUSTRIAL ORGANIC CHEMICALS

Establishments primarily engaged in manufacturing industrial organic chemicals. Important products of this group include: (1) non-cyclic organic chemicals such as acetic, chloroacetic, adipic, formic, oxalic and tartaric acids and their metallic salts; chloral, formaldehyde and methylamine; (2) solvents such as amyl, butyl, and ethyl alcohols; methanol; amyl, butyl and ethyl acetates; ethel ether, ethylene glycol ether and diethylene glycol ether; acetone, carbon disulfide and chlorinated solvents such as carbon tetrachloride, perchloroethylene and trichloroethylene; (3) polyhydric alcohols such as ethylene glycol, sorbitol, pentaerythritol, synthetic glycerin; (4) synthetic perfume and flavoring materials such as coumarin, methyl salicylate, saccharin, citral, citronellal, synthetic geraniol, ionone, terpineol, and synthetic vanillin; (5) rubber processing chemicals such as accelerators and antioxidants, both cyclic and acyclic; (6) plasticizers, both cyclic and acyclic, such as esters of phosphoric acid, phthalic anhydride, adipic acid, lauric acid, oleic acid, sebacic acid, and stearic acid; (7) synthetic tanning agents such as naphthalene sulfonic acid condensates; (8) chemical warfare gases; (9) esters, amines, etc. of polyhydric alcohols and fatty and other acids; (10) cyclic crudes and intermediates; (11) cyclic dyes and organic pigments; and (12) natural gum and wood chemicals. Establishments primarily engaged in manufacturing plastics materials and nonvulcanizable elastomers are classified in Industry 2821; synthetic rubber in Industry 2822; essential oils in Industry 2899; rayon and other synthetic fibers in Industries 2823 and 2824; specialty cleaning, polishing and sanitation preparations in Industry 2842; paints in Industry 2851; and inorganic pigments in Industry 2816. Distilleries engaged in the manufacture of grain alcohol for beverage purposes are classified in Industry 2085.

2861 Gum and Wood Chemicals

Establishments primarily engaged in manufacturing hardwood and softwood distillation products, wood and gum naval stores, charcoal, natural dyestuffs, and natural tanning materials. Establishments primarily engaged in manufacturing synthetic tanning materials and synthetic organic chemicals are classified in Industry 2869, and synthetic organic dyes in Industry 2865.

Acetate of lime, natural
Acetone, natural
Annato extract
Brazilwood extract
Brewers' pitch, product of softwood distillation
Calcium acetate, product of hardwood distillation
Charcoal, except activated
Chestnut extract
Dragon's blood
Dyeing materials, natural
Dyestuffs, natural
Ethyl acetate, natural
Extracts, dyeing and tanning: natural
Fustic wood extract
Gambier extract
Gum naval stores, processing but not gathering or warehousing
Hardwood distillates
Hemlock extract
Logwood extract
Mangrove extract
Methanol, natural (wood alcohol)
Methyl acetone
Methyl alcohol, natural (wood alcohol)
Myrobalans extract
Naval stores, gum: processing but not gathering or warehousing
Naval stores, wood

Group No. | Industry No.

286 INDUSTRIAL ORGANIC CHEMICALS—Continued

2861 Gum and Wood Chemicals—Continued

Oak extract
Oil, pine: produced by distillation of pine gum or pine wood
Oils, wood: product of hardwood distillation
Pine oil, produced by distillation of pine gum or pine wood
Pit charcoal
Pitch, wood
Pyroligneous acid
Quebracho extract
Quercitron extract
Rosin, produced by distillation of pine gum or pine wood
Softwood distillates
Sumac extract
Tall oil, except skimmings
Tanning extracts and materials, natural
Tar and tar oils, products of wood distillation
Turpentine, produced by distillation of pine gum or pine wood
Valonia extract
Wattle extract
Wood alcohol, natural
Wood creosote
Wood distillates

2865 Cyclic (Coal Tar) Crudes, and Cyclic Intermediates, Dyes, and Organic Pigments (Lakes and Toners)

Establishments primarily engaged in manufacturing coal tar crudes and cyclic organic intermediates, dyes, color lakes and toners. Important products of this industry include: (1) derivatives of benzene, toluene, naphthalene, anthracene, pyridine, carbazole, and other cyclic chemical products; (2) synthetic organic dyes; (3) synthetic organic pigments; and (4) cyclic (coal tar) crudes, such as light oils and light oil products; coal tar acids; and products of medium and heavy oil such as creosote oil, naphthalene, anthracene, and their higher homologues, and tar. Establishments primarily engaged in manufacturing coal tar crudes in chemical recovery ovens are classified in Industry 3312, and petroleum refineries which produce such products in Industry 2911.

Acid dyes, synthetic
Acids, coal tar: derived from coal tar distillation
Alkylated diphenylamines, mixed
Alkylated phenol, mixed
Aminoanthraquinone
Aminoazobenzene
Aminoazotoluene
Aminophenol
Aniline
Aniline oil
Anthracene
Anthraquinone dyes
Azine dyes
Azo dyes
Azobenzene
Azoic dyes
Benzaldehyde
Benzene hexachloride (BHC)
Benzene, product of coal tar distillation
Benzoic acid
Benzol, product of coal tar distillation
Biological stains
Chemical indicators
Chlorobenzene
Chloronaphthalene
Chlorophenol
Chlorotoluene
Coal tar crudes, derived from coal tar distillation
Coal tar distillates
Coal tar intermediates
Color lakes and toners
Color pigments, organic: except animal black and bone black
Colors, dry: lakes, toners, or full strength organic colors
Colors, extended (color lakes)
Cosmetic dyes, synthetic
Creosote oil, product of coal tar distillation
Cresols, product of coal tar distillation
Cresylic acid, product of coal tar distillation
Cyclic crudes, coal tar: product of coal tar distillation
Cyclic intermediates
Cyclohexane
Diphenylamine
Drug dyes, synthetic
Dye (cyclic) intermediates
Dyes, food: synthetic
Dyes, synthetic organic
Eosine toners
Ethylbenzene
Hydroquinone
Isocyanates
Lake red C toners
Leather dyes and stains, synthetic
Lithol rubine lakes and toners
Maleic anhydride
Methyl violet toners
Naphtha, solvent: product of coal tar distillation
Naphthalene chips and flakes
Naphthalene, product of coal tar distillation
Naphthol, alpha and beta
Nitro dyes
Nitroaniline
Nitrobenzene
Nitrophenol
Nitroso dyes
Oil, aniline
Oils: light, medium, and heavy—product of coal tar distillation
Organic pigments (lakes and toners)
Orthodichlorobenzene
Paint pigments, organic
Peacock blue lake
Pentachlorophenol
Persian orange lake
Phenol
Phloxine toners
Phosphomolybdic acid lakes and toners
Phosphotungstic acid lakes and toners
Phthalic anhydride
Phthalocyanine toners
Pigment scarlet lake
Pitch, product of coal tar distillation
Pulp colors, organic
Quinoline dyes
Resorcinol
Scarlet 2 R lake

286 INDUSTRIAL ORGANIC CHEMICALS—Continued

2865 Cyclic (Coal Tar) Crudes, and Cyclic Intermediates, Dyes, and Organic Pigments (Lakes and Toners)—Continued

Stafos for leather
Stilbene dyes
Styrene
Styrene monomer
Tar, product of coal tar distillation
Toluene, product of coal tar distillation
Toluidines
Toluol, product of coal tar distillation
Vat dyes, synthetic
Xylene, product of coal tar distillation
Xylol, product of coal tar distillation

2869 Industrial Organic Chemicals, Not Elsewhere Classified

Establishments primarily engaged in manufacturing industrial organic chemicals, not elsewhere classified. Important products of this industry include: (1) non-cyclic organic chemicals such as acetic, chloroacetic, adipic, formic, oxalic and tartaric acids and their metallic salts; chloral, formaldehyde and methylamine; (2) solvents such as amyl, butyl, and ethyl alcohols; methanol; amyl, butyl and ethyl acetates; ethel ether, ethylene glycol ether and diethylene glycol ether; acetone, carbon disulfide and chlorinated solvents such as carbon tetrachloride, perchloroethylene and trichloroethylene; (3) polyhydric alcohols such as ethylene glycol, sorbitol, pentaerythritol, synthetic glycerin; (4) synthetic perfume and flavoring materials such as coumarin, methyl salicylate, saccharin, citral, citronellal, synthetic geraniol, ionone, terpineol, and synthetic vanillin; (5) rubber processing chemicals such as accelerators and antioxidants, both cyclic and acyclic; (6) plasticizers, both cyclic and acyclic, such as esters of phosphoric acid, phthalic anhydride, adipic acid, lauric acid, oleic acid, sebacic acid, and stearic acid; (7) synthetic tanning agents such as naphthalene sulfonic acid condensates; (8) chemical warfare gases; and (9) esters, amines, etc. of polyhydric alcohols and fatty and other acids. Establishments primarily engaged in manufacturing plastics materials and nonvulcanizable elastomers are classified in Industry 2821; synthetic rubber in Industry 2822; essential oils in Industry 2899; wood distillation products, naval stores, and natural dyeing and tanning materials in Industry 2861; rayon and other synthetic fibers in Industries 2823 and 2824; specialty cleaning, polishing and sanitation preparations in Industry 2842; paints in Industry 2851; urea in Industry 2873; organic pigments in Industry 2865; and inorganic pigments in Industry 2816. Distilleries engaged in the manufacture of grain alcohol for beverage purposes are classified in Industry 2085.

Accelerators, rubber processing: cyclic and acyclic
Acetaldehyde
Acetates, except natural acetate of lime
Acetic acid, synthetic
Acetic anhydride
Acetin
Acetone, synthetic
Acid esters, amines, etc.
Acids, organic
Acrolein
Acrylonitrile
Adipic acid
Adipic acid esters
Adiponitrile
Alcohol, aromatic
Alcohol, fatty; powdered
Alcohol, methyl: synthetic (methanol)
Alcohols, industrial: denatured (non-beverage)
Algin products
Amyl acetate and alcohol
Antioxidants, rubber processing: cyclic and acyclic
Bromochloromethane
Butadiene, from alcohol
Butyl acetate, alcohol, and propionate
Butyl ester solution of 2, 4-D
Calcium oxalate
Camphor, synthetic
Carbon bisulfide (disulfide)
Carbon tetrachloride
Casing fluids, for curing fruits, spices, tobacco, etc.
Cellulose acetate, unplasticized
Chemical warfare gases
Chloral
Chlorinated solvents
Chloroacetic acid and metallic salts
Chloroform
Chloropicrin
Citral
Citrates
Citric acid
Citronellal
Coumarin
Cream of tartar
Cyclopropane
DDT, technical
Decahydronaphthalene
Dichlorodifluoromethane
Diethylcyclohexane (mixed isomers)
Diethylene glycol ether
Dimethyl divinyl acetylene (di-isopropenyl acetylene)
Dimethylhydrazine, unsymmetrical
Embalming fluids

286 INDUSTRIAL ORGANIC CHEMICALS—Continued

2869 Industrial Organic Chemicals, Not Elsewhere Classified—Continued

Enzymes
Esters of phosphoric, adipic, lauric, oleic, sebacic, and stearic acids
Esters of phthalic anhydride
Ethanol, industrial
Ether
Ethyl acetate, synthetic
Ethyl alcohol, industrial (nonbeverage)
Ethyl butyrate
Ethyl cellulose, unplasticized
Ethyl chloride
Ethyl ether
Ethyl formate
Ethyl nitrite
Ethyl perhydrophenanthrene
Ethylene
Ethylene glycol
Ethylene glycol ether
Ethylene glycol, inhibited
Ethylene oxide
Fatty acid esters, amines, etc.
Ferric ammonium oxalate
Flavors and flavoring materials, synthetic
Fluorinated hydrocarbon gases
Formaldehyde (formalin)
Formic acid and metallic salts
Freon
Fuel propellants, solid: organic
Fuels, high energy: organic
Geraniol, synthetic
Glycerin, except from fats (synthetic)
Grain alcohol, industrial (nonbeverage)
Hexamethylenediamine
Hexamethylenetetramine
High purity grade chemicals, organic: refined from technical grades
Hydraulic fluids, synthetic base
Hydrazine
Industrial organic cyclic compounds
Ionone
Isopropyl alcohol
Ketone, methyl ethyl
Ketone, methyl isobutyl
Laboratory chemicals, organic
Lauric acid esters
Lime citrate
Malononitrile, technical grade
Metallic salts of acyclic organic chemicals
Metallic stearate
Methanol, synthetic (methyl alcohol)
Methyl chloride
Methyl perhydrofluorine
Methyl salicylate
Methylamine
Methylene chloride
Monochlorodifluoromethane
Monomethylparaminophenol sulfate
Monosodium glutamate
Mustard gas
Naphthalene sulfonic acid condensates
Naphthenic acid soaps
Normal hexyl decalin
Nuclear fuels, organic
Oleic acid esters
Organic acid esters
Organic chemicals, acyclic
Oxalates
Oxalic acid and metallic salts
Pentaerythritol
Perchloroethylene
Perfume materials, synthetic
Phosgene
Phthalates
Plasticizers, organic: cyclic and acyclic
Polyhydric alcohol esters, amines, etc.
Polyhydric alcohols
Potassium bitartrate
Propellants for missiles, solid: organic
Propylene
Propylene glycol
Quinuclidinol ester of benzylic acid
Reagent grade chemicals, organic: refined from technical grades
Rocket engine fuel, organic
Rubber processing chemicals, organic: accelerators and antioxidants
Saccharin
Sebacic acid
Silicones
Soaps, naphthenic acid
Sodium acetate
Sodium alginate
Sodium benzoate
Sodium glutamate
Sodium pentachlorophenate
Sodium sulfoxalate formaldehyde
Solvents, organic
Sorbitol
Stearic acid salts
Sulfonated naphthalene
Tackifiers, organic
Tannic acid
Tanning agents, synthetic organic
Tartaric acid and metallic salts
Tartrates
Tear gas
Terpineol
Tert-butylated bis (p-phenoxyphenyl) ether fluid
Tetrachloroethylene
Tetraethyl lead
Thioglycolic acid, for permanent wave lotions
Trichloroethylene
Trichloroethylene stabilized, degreasing
Trichlorophenoxyacetic acid
Trichlorotrifluoroethane tetrachlorodifluoroethane isopropyl alcohol
Tricresyl phosphate
Tridecyl alcohol
Trimethyltrithiophosphite (rocket propellants)
Triphenyl phosphate
Vanillin, synthetic
Vinyl acetate

AGRICULTURAL CHEMICALS

This group includes establishments primarily engaged in manufacturing nitrogenous and phosphatic basic fertilizers, mixed fertilizers, pesticides, and other agricultural chemicals. Establishments primarily engaged in manufacturing basic chemicals, which require further processing or formulation before use as agricultural pest control agents, are classified in Group 281 or 286.

Group No. | Industry No.

287 AGRICULTURAL CHEMICALS—Continued

2873 Nitrogenous Fertilizers

Establishments primarily engaged in manufacturing nitrogenous fertilizer materials or mixed fertilizers from nitrogenous materials produced in the same establishment. Included are ammonia fertilizer compounds and anhydrous ammonia, nitric acid, ammonium nitrate, ammonium sulfate and nitrogen solutions, urea, and natural organic fertilizers (except compost) and mixtures.

- Ammonia liquor
- Ammonium nitrate and sulfate
- Anhydrous ammonia
- Aqua ammonia, made in ammonia plants
- Fertilizers: natural (organic), except compost
- Nitric acid
- Nitrogen solutions (fertilizer)
- Plant foods, mixed: made in plants producing nitrogenous fertilizer
- Urea

2874 Phosphatic Fertilizers

Establishments primarily engaged in manufacturing phosphatic fertilizer materials, or mixed fertilizers from phosphatic materials produced in the same establishment. Included are phosphoric acid; normal, enriched, and concentrated superphosphates; ammonium phosphates; nitro-phosphates; and calcium meta-phosphates.

- Ammonium phosphate
- Calcium meta-phosphate
- Defluorinated phosphate
- Diammonium phosphate
- Fertilizers, mixed: made in plants producing phosphatic fertilizer materials
- Phosphoric acid
- Plant foods, mixed: made in plants producing phosphatic fertilizer
- Superphosphates, ammoniated and not ammoniated

2875 Fertilizers, Mixing Only

Establishments primarily engaged in mixing fertilizers from purchased fertilizer materials.

- Compost
- Fertilizers, mixed: made in plants not manufacturing fertilizer materials
- Potting soil, mixed

2879 Pesticides and Agricultural Chemicals, Not Elsewhere Classified

Establishments primarily engaged in the formulation and preparation of ready-to-use agricultural and household pest control chemicals, including insecticides, fungicides and herbicides from technical chemicals or concentrates; and the production of concentrates which require further processing before use as agricultural pesticides. This industry also includes establishments primarily engaged in manufacturing or formulating agricultural chemicals, not elsewhere classified, such as minor or trace elements and soil conditioners. Establishments primarily engaged in manufacturing basic or technical agricultural pest control chemicals including insecticides, fungicides, and herbicides such as lead and calcium arsenates, and copper sulfate are classified in Group 281, and DDT, BHC, 2,4-D carbamates, etc., in Group 286. Establishments primarily engaged in manufacturing agricultural lime products are classified in Major Group 32.

- Agricultural disinfectants
- Agricultural pesticides
- Arsenates: calcium, copper, and lead—formulated
- Arsenites, formulated
- Bordeaux mixture
- Calcium arsenate and arsenite, formulated
- Cattle dips
- Copper arsenate, formulated
- DDT (insecticide), formulated
- Defoliants
- Elements, minor or trace (agricultural chemicals)
- Exterminating products, for household and industrial use
- Fly sprays
- Fungicides
- Growth regulants, agricultural
- Herbicides
- Hormones, plant
- Household insecticides
- Insect powder, household
- Insecticides, agricultural
- Lead arsenate, formulated
- Lime-sulfur, dry and solution
- Lindane, formulated
- Moth repellants
- Nicotine and salts
- Nicotine bearing insecticides
- Paris green (insecticide)
- Pesticides, household
- Phytoactin
- Plant hormones
- Poison: ant, rat, roach, and rodent—household
- Pyrethrin bearing preparations
- Pyrethrin concentrates
- Rodenticides
- Rotenone bearing preparations

Group No. | Industry No.

287 AGRICULTURAL CHEMICALS—Continued

2879 Pesticides and Agricultural Chemicals, Not Elsewhere Classified—Continued

Rotenone concentrates
Sheep dips, chemical
Sodium arsenite (formulated)
Soil conditioners
Sulfur dust (insecticide)
Thiocyanates, organic (formulated)
Trace elements (agricultural chemicals)
Xanthone (formulated)

289 MISCELLANEOUS CHEMICAL PRODUCTS

2891 Adhesives and Sealants

Establishments primarily engaged in manufacturing industrial and household adhesives, glues, calking compounds, sealants, and linoleum, tile, and rubber cements from vegetable, animal, or synthetic plastics materials, purchased or produced in the same establishment. Establishments primarily engaged in manufacturing gelatin and sizes are classified in Industry 2899, and vegetable gelatin or agar-agar in Industry 2833.

Adhesives
Adhesives, plastic
Calking compounds
Cement (cellulose nitrate base)
Cement, linoleum
Cement, mending
Cement, rubber
Epoxy adhesives
Glue, except dental: animal, vegetable, fish, casein, and synthetic resin
Iron cement, household
Laminating compounds
Mucilage
Paste, adhesive
Porcelain cement, household
Rubber cement
Sealing compounds for pipe threads and joints
Sealing compounds, synthetic rubber and plastic
Wax, sealing

2892 Explosives

Establishments primarily engaged in manufacturing explosives. Establishments primarily engaged in manufacturing ammunition for small arms are classified in Industry 3482 and fireworks in Industry 2899.

Amatol (explosive)
Azides (explosives)
Blasting powder and blasting caps
Carbohydrates, nitrated (explosives)
Cordeau detonant (explosive)
Cordite (explosive)
Detonating caps for safety fuses
Detonators (explosive compounds)
Dynamite
Explosive cartridges for concussion forming of metal
Explosive compounds
Explosives
Fulminate of mercury (explosive compound)
Fuse powder
Fuses, safety
Gunpowder
High explosives
Lead azide (explosive)
Mercury azide (explosive)
Nitrocellulose powder (explosive)
Nitroglycerin (explosive)
Nitromannitol (explosive)
Nitrostarch (explosive)
Nitrosugars (explosives)
Pentolite (explosive)
Permissible explosives
Picric acid (explosive)
Powder: pellet, smokeless, and sporting (explosive)
RDX (explosive)
Squibbs, electric
Styphnic acid
Tetryl (explosive)
TNT (trinitrotoluene)
Well shooting torpedoes (explosives)

2893 Printing Ink

Establishments primarily engaged in manufacturing printing ink, gravure ink, screen process ink, and lithographic ink.

Bronze ink
Gold ink
Gravure ink
Ink, duplicating
Ink, printing: base or finished
Lithographic ink
Printing ink
Screen process ink

2895 Carbon Black

Establishments primarily engaged in manufacturing carbon black (channel and furnace black).

Carbon black
Channel black
Furnace black

Group No. | Industry No.

289 MISCELLANEOUS CHEMICAL PRODUCTS—Continued

2899 Chemicals and Chemical Preparations, Not Elsewhere Classified

Establishments primarily engaged in manufacturing miscellaneous chemical preparations, not elsewhere classified, such as fatty acids, essential oils, gelatin (except vegetable), sizes, bluing, laundry sours, writing and stamp pad inks; industrial compounds, such as boiler and heat insulating compounds, metal, oil and water treating compounds, water-proofing compounds and chemical supplies for foundries. Establishments primarily engaged in manufacturing vegetable gelatin (agar-agar) are classified in Industry 2833; and dessert preparations based on gelatin in Industry 2099.

Acid, battery
Acid resist for etching
Anise oil
Antifreeze compounds, except industrial alcohol
Bay oil
Binders (chemical foundry supplies)
Bluing
Boiler compounds, anticaling
Bombs, flashlight
Caps, for toy pistols
Carbon removing solvent
Chemical cotton (processed cotton linters)
Chemical supplies for foundries
Citronella oil
Concrete curing compounds (blends of pigments, waxes, and resins)
Concrete hardening compounds
Core oil and binders
Core wash
Core wax
Corrosion preventive lubricant, synthetic base: for jet engines
Defrosting fluid
De-icing fluid
Dextrine sizes
Desalter kits, sea water
Drilling mud
Dyes, household
Essential oils
Eucalyptus oil
Exothermics for metal industries
Facings (chemical foundry supplies)
Fatty acids: margaric, oleic, and stearic
Fire extinguisher chargers
Fire retardant chemicals
Fireworks
Flares (all kinds)
Fluidifier (retarder) for concrete
Fluorescent inspection oil
Fluxes: brazing, soldering, galvanizing, and welding
Foam charge mixtures
Food contamination testing and screening kits
Foundry supplies
Frit
Fuel tank and engine cleaning chemicals, automotive and aircraft
Fusees: highway, marine, and railroad
Gelatin capsules, empty
Gelatin: edible, technical, photographic, and pharmaceutical
Glue size
Gum sizes
Grapefruit oil
Grouting material (concrete mending compound)
Gun slushing compounds
Heat insulating compounds
Heat treating salts
Hydrofluoric acid compound, for etching and polishing glass
Igniter grains, boron potassium nitrate
Incense
Industrial sizes
Ink and writing fluids, except printing
Inspection oil, fluorescent
Insulating compounds
Jet fuel igniters
Laundry sours
Lemon oil
Lighter fluid
Magnetic inspection oil and powder
Margaric acid
Metal drawing compound lubricants
Metal treating compounds
Military pyrotechnics
Napalm
Oil, red (oleic acid)
Oil treating compounds
Oleic acid (red oil)
Orange oil
Orris oil
Osmin
Oxidizers, inorganic
Packers' salt
Parting compounds (chemical foundry supplies)
Patching plaster, household
Penetrants, inspection
Peppermint oil
Plastic wood
Plating compounds
Pyrotechnic ammunition: flares, signals, flashlight bombs, and rockets
Railroad torpedoes
Red oil (oleic acid)
Rifle bore cleaning compounds
Rosin sizes
Rust resisting compounds
Salt
Signal flares, marine
Sizes: animal, vegetable, and synthetic plastics materials
Sodium chloride, refined
Soil testing kits
Spearmint oil
Spirit duplicating fluid
Stearic acid
Stencil correction compounds
Tints and dyes, household
Torches (fireworks)
Torpedoes, railroad
Vegetable oils, vulcanized or sulfurized
Water, distilled
Water treating compounds
Waterproofing compounds
Wax, core
Wintergreen oil
Writing ink and fluids

Major Group 29.—PETROLEUM REFINING AND RELATED INDUSTRIES

The Major Group as a Whole

This major group includes establishments primarily engaged in petroleum refining, manufacturing paving and roofing materials, and compounding lubricating oils and greases from purchased materials. Establishments manufacturing and distributing gas to consumers are classified in public utilities industries, and those primarily engaged in producing coke and byproducts in Major Group 33.

Group No.	Industry No.	
291		PETROLEUM REFINING
	2911	Petroleum Refining

Establishments primarily engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants and other products from crude petroleum and its fractionation products, through straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking or other processes. Establishments primarily engaged in producing natural gasoline from natural gas are classified in mining industries. Those manufacturing lubricating oils and greases by blending and compounding purchased materials are included in Industry 2992. Establishments primarily re-refining used lubricating oils are classified in Industry 2992.

Acid oil
Alkylates
Aromatic chemicals, made in petroleum refineries
Asphalt and asphaltic materials: liquid and solid—produced in refineries
Benzene, produced in petroleum refineries
Bensol, produced in petroleum refineries
Butadiene, from petroleum
Coke, petroleum: produced in petroleum refineries
Fractionation products of crude petroleum
Gas, refinery or still oil: produced in petroleum refineries
Gases, liquefied petroleum
Gasoline blending plants
Gasoline, except natural gasoline
Greases: lubricating, produced in petroleum refineries
Hydrocarbon fluid, made in petroleum refineries
Jet fuels
Kerosene
Mineral jelly, produced in petroleum refineries
Mineral oils, natural
Mineral waxes, natural
Naphtha, produced in petroleum refineries
Naphthenic acids
Oils: fuel, lubricating, and illuminating—produced in petroleum refineries
Oils, partly refined: sold for rerunning—produced in refineries
Paraffin wax, produced in petroleum refineries
Petrolatums, nonmedicinal
Petroleum refining
Road materials, bituminous: produced in petroleum refineries
Road oils, produced in petroleum refineries
Solvents, produced in petroleum refineries
Tar or residuum, produced in petroleum refineries

Appendix 3

GUIDE TO THE USE OF THE TSCA CANDIDATE LIST OF CHEMICAL SUBSTANCES

Introduction

In April 1977, the U.S. Environmental Protection Agency published the three volume, hard copy "TSCA Candidate List of Chemical Substances." This publication identifies over 30,000 "chemical substances" which, EPA believes, include many reportable chemical substances. Entries in the Candidate List were drawn from substance lists available from private and governmental sources.

EPA compiled the Candidate List for only one purpose: to simplify reporting of chemical substance identities for the Inventory. All chemical substances reported for the Inventory must be properly identified. Reporting chemical substance identity is simplest for those reportable chemical substances which appear on the Candidate List. Using Form A, a person may report such substance simply by entering two numbers -- the Chemical Abstracts Service (CAS) Registry Number corresponding to the substance, and an EPA Code Designation which appears along with that particular CAS Registry Number in the Candidate List. Chemical substances which do not appear, or cannot be found, in the Candidate List may only be reported using Forms B or C.

Although the "TSCA Candidate List of Chemical Substances" contains four sections, it is actually a single list of substances. Each section provides a different means of locating a chemical substance. Used in combination with one another, the sections provide a means for crosschecking to ensure the proper identification of a particular substance. A brief description of each section appears below:

-- Substance Name Section: an alphabetically ordered listing of substance names for all substances on the Candidate List,

-- Formula Section: a listing of all substances on the Candidate List of known chemical composition ordered by molecular formula,

-- Number Section: a listing of all substances on the List ordered by Chemical Abstracts Service (CAS) Registry Number, and

-- Chemical Substances of Unknown or Variable Composition, Complex Reaction Products, and Biological Materials (UVCB) Section: a listing of names of substances on the Candidate List that do not have specific molecular formula representations, grouped into subsets of closely related substances. For the sake of brevity, this section is referred to henceforth as the UVCB Section.

Candidate List Information

Substance names, molecular formulas, and characteristic numbers aid in the identification of chemical substances in the Candidate List. These items of information are described in detail below.

Substance Names

Three types of names are used in the Candidate List: (a) Chemical Abstracts (CA) Index Names, (b) names chosen by EPA to identify substances in the UVCB Section, and (c) various other names by which substances are commonly known to chemists and in commerce and manufacturing.

Chemical Abstracts (CA) Index Names:

For most chemical substances which have been assigned CAS Registry Numbers, CAS has also assigned a unique, fully systematic name known as the CA Index Name[1]. CA Index Names are derived according to a rigorous, comprehensive set of nomenclature rules to ensure that a single, preferred name can be constructed for each chemical substance. In most cases, the CA Index Name for a substance contains sufficient information to permit derivation of the corresponding chemical structural diagram.

A CA Index Name may be made up of several parts, each playing a specific role in completing the description of a chemical substance. The principal portion of a CA Index Name is the "heading parent," which describes the fundamental or most significant feature(s) of the chemical substance, as determined by application of CAS nomenclature rules. The heading parent forms the basis for ordering CA Index Names in alphabetical listings. Additional parts of the CA Index Name are appended to the heading parent to describe substituent groups attached to the parent substance, derivative information, and stereochemistry. Thus, CA Index Names appear in what is known as "inverted" form. For example, the CA Index Name for styrene is Benzene, ethenyl-; the "uninverted" form of this name is ethenylbenzene. The effect of using CA Index Names in their inverted form is to bring together in the Substance Name Section entries for related substances which have the same heading parent.

UVCB Substance Names

CAS does not assign CA Index Names to substances of the type appearing in the UVCB Section. Therefore, lacking CA Index Names, EPA has selected preferred forms of the name for each of these substances and has listed these names in the UVCB Section, the Substance Name Section and the Number Section. These substances are not listed in the Formula Section.

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[1]CA Index Names cited in the Candidate List are based upon either the CA Eighth Collective Index Period or CA Ninth Collective Index Period nomenclature policies. The Eighth Collective Index Period covers CA Volumes 66-75 (1967-1971), and the Ninth Collective Index Period covers CA Volumes 76-85 (1972-1976). The nomenclature policy reflected by the CA Index Name for a particular CAS Registry Number depends upon the most recent use of that Registry Number in the CAS processing system. Names based on the Ninth Collective Index Period have been selected for use in the Candidate List whenever they were available. In either case, however, the CA Index Name uniquely identifies the chemical substance associated with a particular registration.

Other Substance Names

The Candidate List also includes, for most substances, various other names which have been used for these substances in the chemical literature. Such names are variously described as synonynous names, common names, product names, trivial names, or nonsystematic names.

Many frequently encountered chemical substances have been identified in the chemical literature by several synonymous names. All such names in the CAS files for Candidate List substances have been selected for inclusion in the Substance Name Section. Thus, the Substance Name Section furnishes access to chemical substances through a variety of commonly used synonyms, as well as through highly systematic CA Index Names. Note, however, that synonyms are excluded from the Formula Section and the Number Section.

Molecular Formulas

The term "molecular formula", as used in the Candidate List and in the Inventory Reporting Regulations, means a summation of the actual numbers and kinds of atoms present in a molecule of a chemical substance. For example, C_6H_6 is the molecular formula for benzene, and C_2H_6 the molecular formula for ethane.

The element symbols in the molecular formulas in the Candidate List are arranged according to the Hill System[2], as follows:

a. for carbon-containing compounds -- C first, followed immediately by H (if present), then the remaining symbols alphabetically.

b. for compounds that do not contain carbon, the order of symbols is strictly alphabetical.

The use of molecular formulas in the Formula Section of the Candidate List is presented in a later section of this Guide. The comments in the following two paragraphs apply to molecular formulas as they appear in the Substance Name Section and the Number Section. Molecular formulas do not appear in the UVCB Section.

In the case of salts and molecular addition compounds, the molecular formulas for the components are presented separately. For example, the 1:1 molecular complex of aminoethane with trifluoroborane is presented as:

$$C_2H_7N.BF_3$$

Component ratios for salts and molecular addition compounds are specified when known. For example, the disodium salt of sulfurous acid is presented as:

$$H_2O_3S.2Na$$

A lower case x before the second or any subsequent formulas indicates that the ratio is unknown.

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[2] J. Am. Chem. Soc., *1900*, 22(8), 478-94

Copolymer formulas are presented with the formulas of the monomers shown individually. No ratios are indicated for copolymers; the total formula combination for copolymers or the single formula for homopolymers is enclosed in parentheses followed by a subscript, lower case x. For example:

2-Propenenitrile, polymer with
1,3-butadiene and ethenylbenzene

$(C_8H_8 \cdot C_4H_6 \cdot C_3H_3N)_x$

Polymeric repeating unit formulas are enclosed in parentheses and followed by subscript n. End groups, when included in the total formula, have the summation of their individual formula units cited at the end of the total formula. For example:

Poly(oxy-1,2-ethanediyl),α-hydro-ω-hydroxy-
$(C_2H_4O)_nH_2O$

OR

Poly(oxy-1,2-ethanediyl),α-phenyl-ω-hydroxy-
$(C_2H_4O)_nC_6H_6O$

Numbers

Two types of numbers are used in the Candidate List for each substance: (a) CAS Registry Numbers, and (b) EPA Code Designations. Both types of numbers must be reported to identify properly a chemical substance on Form A.

CAS Registry Numbers: A CAS Registry Number is included for each entry in the Candidate List. Registry Numbers have no chemical significance in themselves and are assigned in sequential order as new substances are entered into the CAS Chemical Registry System[3]. Each Registry Number designates only one chemical substance in terms of atoms, valence bonds, and stereochemistry, insofar as that substance has been elucidated and defined.

A CAS Registry Number consists of up to nine digits which are separated into three groups by hyphens. The first group, starting from the left, has up to six digits; the second group has two digits; and the final group consists of a single check digit which is used to verify by computer the validity of the total Registry Number.

Certain CAS Registry Numbers which appear in the Candidate List are preceded by asterisks (*). The asterisk is used to highlight Registry Numbers for substances which appear in the UVCB Section. (Those Registry Numbers which are preceded by asterisks do not appear in any of the CAS abstract or index publications or services which cite Registry Numbers.)

EPA Code Designations: Associated with every entry in the Substance Name Section, the Number Section, and the Formula Section of the Candidate List is a computer checkable alphanumeric called an EPA Code Designation. EPA Code Designations do not appear in the UVCB section.

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[3]For information regarding the overall design of the CAS Registry System, see J. Chem. Inf. Comput. Sci., *1976*, 16(2), 111-21.

Note: EPA Code Designations must nonetheless be reported for chemical substances which appear in the UVCB Section and may be obtained by refering to the Number Section of the Candidate List using the CAS Registry Number that was found in the UVCB Section.

These alphanumerics were developed solely for the purpose of detecting transcription or keyboarding errors which might occur during the reporting or Inventory compiling processes. They have no significance other than providing a link between a particular entry and its location in the Candidate List.

Sections of the Candidate List

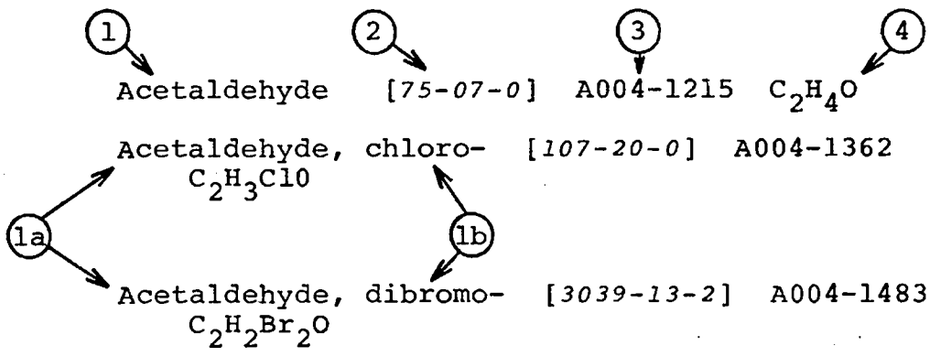
Substance Name Section

The Substance Name Section consists of an alphabetic listing of names of the substances included in the TSCA Candidate List. The names which appear in this section are of three main types: (a) the CA Index Name for most substances other than for those presented in the UVCB Section, (b) names chosen by CAS to represent substances which appear in the UVCB Section, and (c) the various synonymous names by which the substance is known to chemists and in commerce and manufacturing.

The introduction to the Substance Name Section in the Candidate List describes how the names are ordered and in what form they may appear.

Each entry in this section contains the CAS Registry Number for the substance, its molecular formula, if known, and an EPA Code Designation.

ILLUSTRATIVE KEY TO ENTRIES AS THEY WOULD APPEAR IN THE SUBSTANCE NAME SECTION



A. The substance name (1) is the heading and appears in lightface type. The name may be comprised of a heading parent (1a) and an appended descriptive term (1b). When an entry cannot be completed on one line, the second and subsequent lines are indented under the heading.

B. The CAS Registry Number (2) appears in lightface italic type, enclosed in brackets.

C. The EPA Code Designation (3) is printed in lightface type.

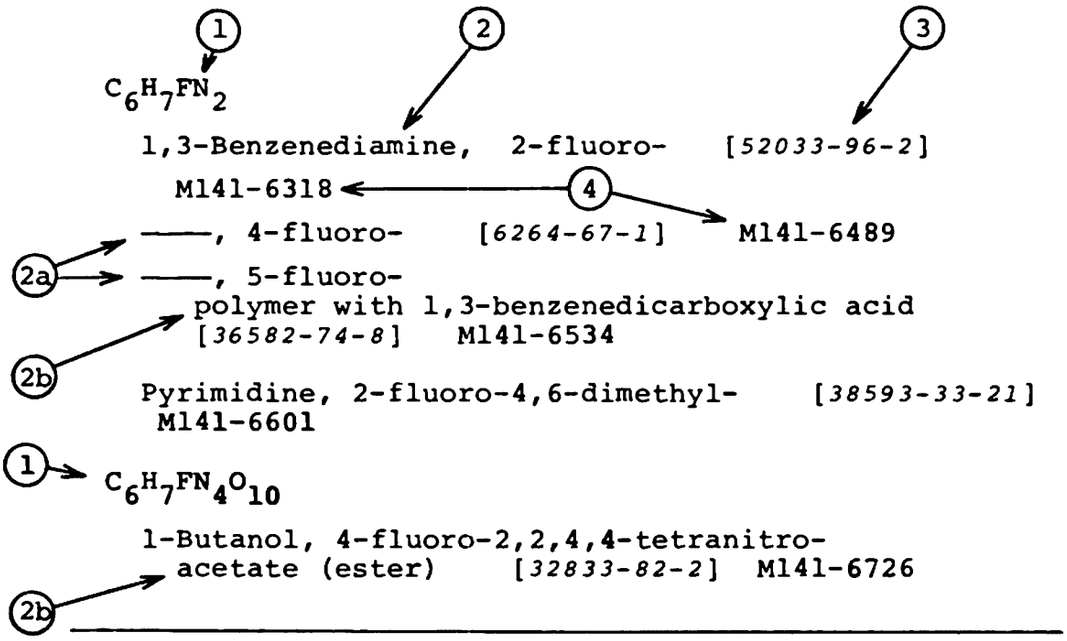
D. The molecular formula (4) appears in lightface type for substances of known chemical constitution.

Formula Section

In the Formula Section, molecular formulas are listed for all substances of known chemical constitution appearing in the Candidate List. Where two or more substances share the same molecular formula, their names are ordered alphabetically by the same principles used for the Substance Name Section. The introduction to this section in the Candidate List describes how the formulas are ordered and in what form they appear.

As illustrated below, each formula entry is accompanied by a CA Index Name, a CAS Registry Number, and an EPA Code Disignation, for each substance having that molecular formula.

ILLUSTRATIVE KEY TO ENTRIES AS THEY WOULD APPEAR IN THE FORMULA SECTION



A. The molecular formula (1) is the heading and appears in boldface type.

B. The substance name(s) (2) appear in lightface type, arranged in alphabetic order below the heading. When the name or entry is not completed on one line, the second and subsequent lines are indented. A long dash (2a) replaces the heading parent name when it is repeated. When a modification phrase (2b) is required to complete the substance description, it is half-indented under the parent substance name.

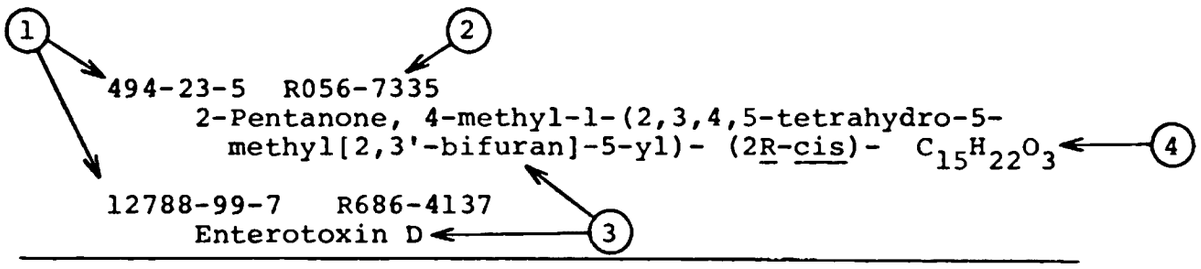
C. The CAS Registry Number (3) appears in lightface italic type.

D. The EPA Code Designation (4) appears in lightface type.

Number Section

In the Number Section of the Candidate List, substances are listed in ascending CAS Registry Number order. Each CAS Registry Number entry is accompanied by a name (usually a CA Index Name) for the substance represented by that CAS Registry Number, the molecular formula of the substance, when known, and an EPA Code Designation. EPA has chosen, for inclusion in the Number Section, preferred forms of substance names for substances listed in the UVCB Section.

ILLUSTRATIVE KEY TO ENTRIES AS THEY WOULD APPEAR IN THE NUMBER SECTION



A. The CAS Registry Number (1) is the heading and appears in boldface type.

B. The EPA Code Designation (2) follows the CAS Registry Number, in lightface type.

C. The preferred substance name (3) (usually a CA Index Name) appears in lightface type.

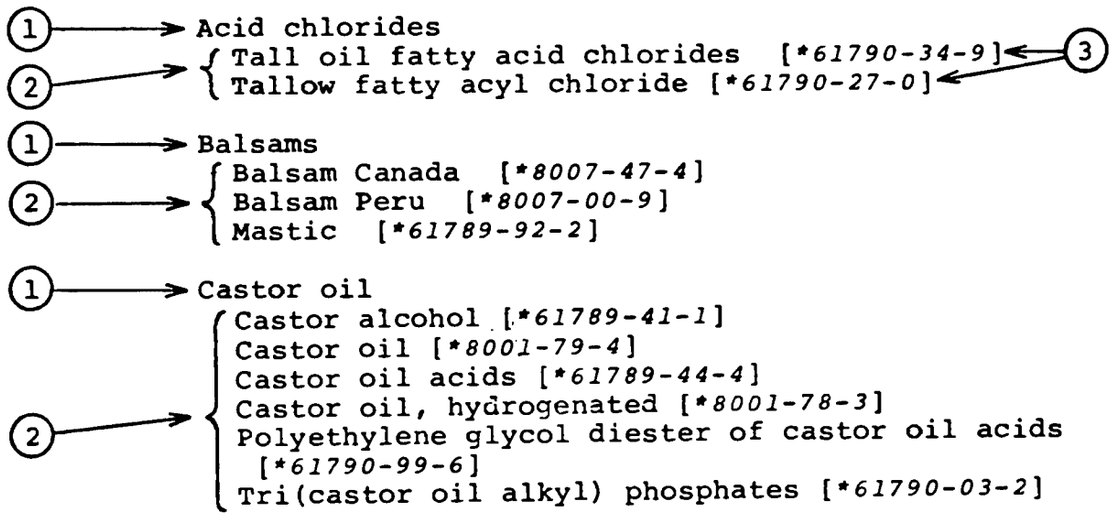
D. The molecular formula (4) appears in lightface type for substances of known chemical constitution.

Chemical Substances of Unknown or Variable Composition, Complex Reaction Products, and Biological Materials (UVCB) Section

A small percentage of the chemicals included in the Candidate List are substances of unknown or variable composition, complex reaction products, or biological materials. These substances lack an accepted molecular formula representation. They are listed in the UVCB Section. They can also be found by name in the Substance Name Section of the Candidate List or by CAS Registry Number in the Number Section; they cannot be found in the Formula Section.

Chemical substances in the UVCB Section have been grouped into subsets consisting of relatively small numbers of closely related substances. Typically, the subsets highlight a structural feature of the substance (e.g., the subset headings "Acid chlorides," "Alkaline earth compounds," "Polyoxyalkylenes") or a significant precursor (e.g., "Castor oil," "Tallow"), or provide a general description (e.g., "Resins," "Waxes"). The subset headings used for this Section are presented in the form of a hierarchical listing which precedes the UVCB Section in the Candidate List.

ILLUSTRATIVE KEY TO ENTRIES
IN THE UVCB SECTION



In the UVCB Section, each subset heading (1) is listed in alphabetic order. The names of the individual Candidate List substances (2) are then listed in alphabetic order under each subset heading, along with their CAS Registry Numbers (3). The names which appear in the UVCB Section are those which appeared in the original compilations used in deriving the Candidate List; no attempt has been made to standardize the nomenclature used to describe these substances. The subset headings (1) are not Candidate List substances and cannot be reported for the inventory. Only the substances listed under the subset headings along with their CAS Registry Numbers are candidate substances.

Using the Candidate List

The Candidate List contains a great deal of useful information for the identification of chemical substances. Many reportable chemical substances are listed and each may be reported simply by entering on Form A its CAS Registry Number and a valid EPA Code Designation.

In addition, information contained in the Candidate List may be used to aid in the identification of Class 2 chemical substances which are reported using Form C (see Appendix 5). In particular, precursor chemical substances may be identified simply and unambiguously with Candidate List information.

Locating substances on the Candidate List depends upon your knowledge of the chemical substance you intend to report. The chemical substance may be known by a variety of substance names, all of which describe the substance. While a great many names are listed in the Substance Name Section, it is probable that not all names which are known for all the Candidate List substances are included. The absence of a particular name in the Substance Name Section does not mean that the chemical substance is not identified in the Candidate List; the substance may be identified in the list by a synonomous substance name. If you are unable to find the name of the chemical substance in the Substance Name Section, consult an alternate section of the Candidate List before concluding that the substance itself is not cited.

If you know the CAS Registry Number of the substance, first consult the Number Section. If you do not know the CAS Registry Number, and the substance is a Class 1 substance, derive its molecular formula and search the Formula Section. Many chemical substances have the identical molecular formula but differ in their chemical structure; in the event that the molecular formula appears and is associated with several different substances, search the names listed to determine if the substance you wish to report is included.

> IMPORTANT: CAS Registry Numbers are very specific. One CAS Registry Number may identify a class of isomers; another Number, a specific isomer of that class. For example, the CAS Registy Number for trichloroethane (nonspecific) is 25323-89-1; the CAS Registry Number for the specific isomer 1,1,1-trichloroethane, however, is 71-55-6. Be certain the CAS Registry Number you report exactly identifies the chemical substance you wish included on the Inventory to the greatest degree of specificity which is appropriate for the chemical substance you are reporting.

A chemical substance which lacks a molecular formula representation may be on the Candidate List but identified by a name with which you are not familiar. You should, therefore, check the names listed under the appropriate subset heading(s) in the UVCB Section. To determine the appropriate subset heading(s), first scan the hierarchical list of subset headings which appears at the beginning of the UVCB Section in the Candidate List. Select the <u>most specific</u> headings applicable. A substance which falls within a given sequence of subset headings of increasing specificity (e.g., "Fats and Oils;" "Fats and Oils, plant;" "Coconut oil") will be found only under the most specific heading in the sequence which is applicable. In some cases, you will find a substance in a fairly specific subset, because the substance is one of a large number of related substances in the UVCB Section (e.g., the sodium salt of sulfated coconut oil will be found under "Coconut oil"). In other cases, the most specific applicable subset may be very generic because the substance does not come from a class of related materials which EPA judged large enough to justify a separate subset (e.g., the sodium salt of sulfated mustard seed oil will be found under "Fats and Oils, plant").

Appendix 4

Alternative Sources of CAS Registry Numbers

A reportable chemical substance which does not appear on the TSCA Candidate List of Chemical Substances may have already been assigned a Chemical Abstracts Service (CAS) Registry Number, particularly if the substance can be represented by a definite chemical structure diagram. By searching one or more of the CAS Registry Number sources described in this appendix, one may find for such a substance its proper CAS Registry Number. Finding the CAS Registry Number will greatly simplify its reporting for the Inventory. With its CAS Registry Number, the chemical substance may be reported using Form B and identified simply by entering its CAS Registry Number and a specific chemical name. Without the CAS Registry Number, the chemical substance must be reported using Form C and identified by detailed chemical information of the type specified in Appendix 5.

CAS Publications

The Chemical Abstracts Service offers a number of documents which are useful sources of CAS Registry Numbers. These are:

1. the CA Volume or Collective Chemical Substance Indexes,

2. the CA Volume or Collective Formula Indexes,

3. the CA INDEX GUIDE, and

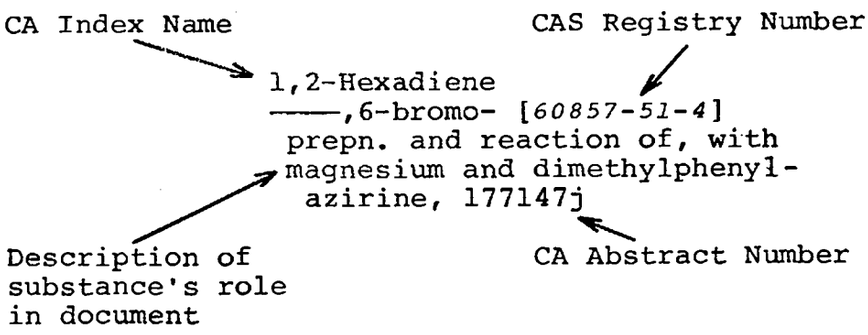
4. the CA REGISTRY HANDBOOK -- Common Names (on microform).

The first three sources are commonly found in major academic libraries; the fourth is commercially available from the Chemical Abstracts Service.

CAS Registry Numbers may be found in these publications by searching lists of trivial or common names, systematic CA Index Names, or molecular formulas -- the same options provided by the Candidate List (see Appendix 3). These sources, however, identify many more substances than are listed on the Candidate List. They cover the full range of substances reported in the scientific and technical literature, whereas the Candidate List was drawn from existing compilations of substances and contains only those substances which EPA had reason to suspect were commercial. Sample pages from each of these four sources appear at the end of this appendix.

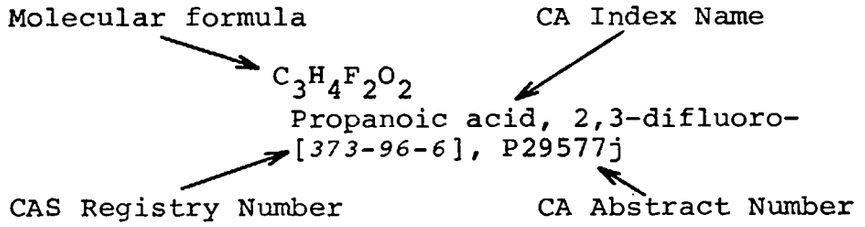
The first three sources are published by CAS in conjunction with the publication of *Chemical Abstracts*. *Chemical Abstracts* is a weekly journal comprised of abstracts and index entries for recent publications relevant to chemistry and chemical engineering. CAS compiles comprehensive volume indexes every six months. The CA Volume Chemical Substance Index relates the CA Index Names of substances, along with their CAS Registry Numbers, to CA Abstract Numbers for publications, abstracted in the volume, in which the substances were mentioned.

Key to CA Chemical Substance Index format:



Similarly, the CA Volume Formula Index relates the molecular formula for substances, along with their CA Index Names and CAS Registry Numbers, to the pertinent document abstracts of the volume.

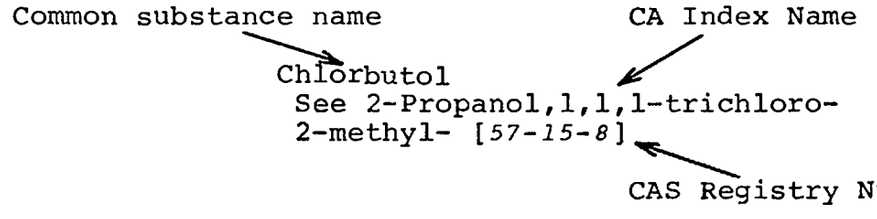
Key to CA Formula Index format:



CAS also produces five-year collective indexes which combine the contents of the corresponding volume indexes. Searching these indexes is advised because of their broader five-year scope. The CA Eighth Collective Index covers documents referenced by CA from 1967 through 1971 and is the first collective index to include CAS Registry Numbers. The Ninth Collective Index covering documents referenced by CA from 1972 through 1976 is currently being issued.

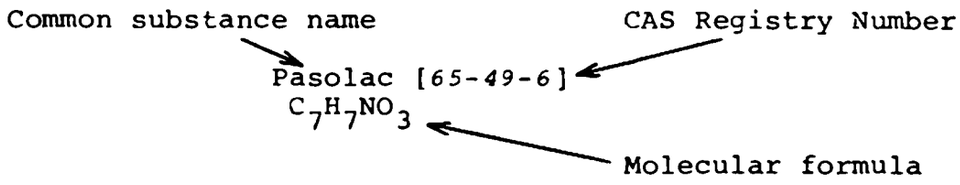
The CA INDEX GUIDE provides easy access to the appropriate index headings used in the CA Chemical Substances Indexes and the CA General Subject Indexes. The main body of the CA INDEX GUIDE is an alphabetic listing of cross-references, synonyms, and indexing policy notes. Substance names (and subject terms) used in the literature are referenced to the corresponding CA Index Name and CAS Registry Numbers (and General Subject Index headings). Only the substance cross-references are useful in finding CAS Registry Numbers.

Key to CA INDEX GUIDE format:



The CAS REGISTRY HANDBOOK -- Common Names (on microform) consists of two parts: the Name Section and the Number Section. The Name Section lists alphabetically a variety of substance names commonly used in the fields of chemistry, biochemistry, medicine, and commerce. The types of names in this listing include common names, trademarks, brand names, and trivial names. Each name is associated with a CAS Registry Number; molecular formulas are included for substances of known composition. The Number section lists, in ascending CAS Registry Number order, the various synonymous common substance names associated with each CAS Registry Number referenced in the Handbook.

Key to CAS REGISTRY HANDBOOK -- Common Names; Name Section format:



CAS also publishes the CAS REGISTRY HANDOOK -- Number Section which is a comprehensive listing of substances registered in the CAS Chemical Registry System. The Handbook lists, in ascending CAS Registry Number order, the CA Index Name and molecular formula for each CAS Registry Number. The Handbook is not intended to be a source of CAS Registry Numbers. It may be used, however, to confirm a chemical substance identity, a CA Index Name, or molecular formula linked to a particular CAS Registry Number. It cannot be emphasized too strongly that CAS registrations are highly specific. Different positional isomers, stereochemical isomers, and salt forms have distinct CAS Registry Numbers. The REGISTRY HANDBOOK -- Number Section, with its inclusion of the usually systematic CA Index Names, will help to validate a CAS Registry Number that might have been obtained from a search using a non-chemically descriptive substance name.

Other Sources

CAS Registry Numbers may also be found in computer-based information retrieval systems. Several on-line information systems that include CAS Registry Numbers are the NIH/EPA Chemical Substructure Search System, the National Library of Medicine's CHEMLINE file, and Lockheed's CHEMNAME file. These systems also contain EPA Code Designations for substances which appear on the Candidate List and, therefore, may be of use for purposes of reporting using Form A.

Many academic and public libraries are equipped with facilities for searching these computer-based files.

IMPORTANT: In reporting the identity of chemical substances for the Inventory by Form B, care must be taken to ensure, first, that the proper CAS Registry Number has been selected, and second that the chemical name is as specific as possible. The substance name should uniquely identify the substance and should include such information as positions of chemical substituent groups, salt forms and ratios,

and stereochemistry, as appropriate. Any inconsistency between the structure associated with a particular CAS Registry Number and the name supplied will prevent the substance from being added to the Inventory until clarifying information is provided.

Consult Vol. 76–85 Cumulative Index Guide Before Using This Index

$C_3H_4Cl_2O$
Ethene, 1,2-dichloro-1-methoxy- [*42345-81-3*], 143205m
Propanal, 2,2-dichloro- [*27313-32-2*], P 21497n
—, 2,3-dichloro- [*10140-89-3*], 142931h
2-Propanone, 1,1-dichloro- [*513-88-2*], 5796e, P 155078k
—, 1,3-dichloro- [*534-07-6*], P 5676q, 78761y, P 108280k, 108573h, P 125295m, P 142647v, P 161211q, P 184831f
Propanoyl chloride, 2-chloro- [*7623-09-8*], P 20804y, 40644z, 62741f, P 123578g, 143061m, P 159714n, P 177098u
—, 3-chloro- [*625-36-5*], P 5705v, P 21325e, P 22781n, 33231j, 40644z, P 46227n, P 46425a, P 63056y, 77795a, P 77851r, 87090f, 93435p, P 108509s, P 123772r, 159606d, P 159883a, P 177098u, P 192577t
2-Propen-1-ol, 2,3-dichloro- [*2736-73-4*], P 47507r, P 47608z
—, 3,3-dichloro- [*3039-55-2*], 32716j

$C_3H_4Cl_2OS$
Propanoyl chloride, 3-(chlorothio)- [*14274-19-2*], 159954r

$C_3H_4Cl_2O_2$
Acetic acid, dichloro-, methyl ester [*116-54-1*], 4991b, 5158g, 20565w, 77333y, 123518n, 158849y
Acetic-2-^{14}C acid, 2,2-dichloro-, methyl ester [*60062-75-1*], 77595k
Carbonochloridic acid, 2-chloroethyl ester [*627-11-2*], P 33010m, P 45998c, 93370p
Propanoic acid, 2,2-dichloro- [*75-99-0*]. See Chemical Substance Index
calcium salt [*53606-78-3*], 57893c
compd. with butyl carbamimidothioate (1:1) [*59972-04-2*], 57893c
compd. with 1,1-dimethylethyl carbamimidothioate (1:1) [*59972-07-5*], 57893c
compd. with ethyl carbamimidothioate (1:1) [*59972-02-0*], 57893c
compd. with heptyl carbamimidothioate (1:1) [*59972-11-1*], 57893c
compd. with 1-methylbutyl carbamimidothioate (1:1) [*59972-09-7*], 57893c
compd. with 3-methylbutyl carbamimidothioate (1:1) [*59972-10-0*], 57893c
compd. with methyl carbamimidothioate (1:1) [*59972-01-9*], 57893c
compd. with 1-methylheptyl carbamimidothioate (1:1) [*59972-12-2*], 57893c
compd. with 1-methylpropyl carbamimidothioate (1:1) [*59972-05-3*], 57893c
compd. with 2-methylpropyl carbamimidothioate (1:1) [*59972-06-4*], 57893c
compd. with octyl carbamimidothioate (1:1) [*53606-79-4*], 57893c
compd. with pentyl carbamimidothioate (1:1) [*59972-08-6*], 57893c
compd. with propyl carbamimidothioate (1:1) [*59972-03-1*], 57893c
mixt. with *N,N'*-bis(1-methylethyl)-6-[(methylthio)-1,3,5-triazine-2,4-diamine [*60823-12-3*], 187874t
sodium salt [*127-20-8*], 1133n, 5785z, 15222c, 57893c, P 58093d, 104935e, P 138631t, 187643g, 187651h
sodium salt, labeled with chlorine-36 [*59845-52-2*], P 45990u
Propanoic-1-^{14}C acid, 2,2-dichloro- [*60062-73-9*], 77595k
Propanoic-2-^{14}C acid, 2,2-dichloro- [*60062-77-3*], 77595k

$C_3H_4Cl_2O_2S_2$
1,3-Propanedisulfonyl dichloride, 2-oxo- [*58486-69-4*], P 93828u

$C_3H_4Cl_3NO_2$
Formamide, *N*-(2,2,2-trichloro-1-hydroxyethyl)- [*515-82-2*], P 62686a, P 93863b, 192033n

$C_3H_4Cl_3NSi$
Propanenitrile, 2-(trichlorosilyl)- [*2621-01-4*], 160228p

$C_3H_4Cl_3OP$
Phosphonic dichloride, [1-(chloromethyl)ethenyl]- [*60367-21-7*], 108722f

$C_3H_4Cl_4$
Propane, tetrachloro- [*25641-62-7*], 88134k
—, 1,1,1,3-tetrachloro- [*1070-78-6*], 32377m, 77535r

$C_3H_4Cl_4O$
1-Propanol, 2,3,3,3-tetrachloro- [*59778-03-9*], 32716j

$C_3H_4Cl_4OSn$
Propanoyl chloride, 3-(trichlorostannyl)- [*59586-10-6*], P 109442b

$C_3H_4Cl_4O_2S$
1-Propanesulfonyl chloride, 2,3,3-trichloro- [*59924-66-2*], P 62652c

$C_3H_4Cl_4NP$
Phosphorimidic trichloride, (1,1,2-trichloropropyl)- [*60579-93-3*], 123472t

$C_3H_4Cl_4Si_2$
Silane, dichloro[2-(trichlorosilyl)ethenyl]=[(trichlorosilyl)methyl]- [*59361-37-4*], 5749r

$C_3H_4CrN_3O_8$
Chromium, di-μ-hydroxyoctakis(nitrato-*O*)[μ₄-=[propanedioato(2-)-*O,O':O'':O'''*]]tetra- [*60106-14-1*], 85772f

$C_3H_4D_2O$
Oxirane-2,3-*d*₂, methyl- [*59454-23-8*], 21929e

C_3H_4FI
1-Propene, 2-fluoro-3-iodo- [*5675-33-2*], 20478v

C_3H_4FLi
Lithium, (1-fluorocyclopropyl)- [*60835-66-7*], 176696a

$C_3H_4F_2$
1-Propene, 2,3-difluoro- [*59486-57-6*], 20478v
—, 3,3-difluoro- [*430-62-6*], 62541r

$C_3H_4F_2O_2$
Propanoic acid, 2,3-difluoro- [*373-96-6*], P 29577j

$C_3H_4F_2Si$
Silane, ethynyldifluoromethyl- [*61210-41-1*], 175529k

$C_3H_4F_2NO$
Carbamic fluoride, (1,1-difluoroethyl)- [*1840-11-5*], 176795g

$C_3H_4F_3NO_2S$
Acetamide, *N*-[(trifluoromethyl)sulfinyl]- [*59617-38-8*], 32363a

$C_3H_4F_3NO_3S$
Carbamic acid, [(trifluoromethyl)sulfinyl]-, methyl ester [*59617-35-5*], 32363a

$C_3H_4F_4O$
1-Propanol, 2,2,3,3-tetrafluoro- [*76-37-9*], 5170g, 33327v, 155698n
sodium salt [*41578-54-5*], 45908y

$C_3H_4F_4O_2$
Peroxide, 2-fluoroethyl trifluoromethyl [*60901-73-7*], 176764w

$C_3H_4F_6N_2$
2,2-Propanediamine, 1,1,1,3,3,3-hexafluoro- [*1737-80-0*], 78073a

$C_3H_4F_6NP$
Phosphoranamine, 1,1-difluoro-*N*-methyl-1,1-bis(trifluoromethyl)- [*60049-35-6*], 62353f

C_3H_4Hg
Mercury, ethynylmethyl- [*1189-66-8*], 62351d

$C_3H_4Li_2$
Lithium, μ-cyclopropylidenedi- [*60835-62-3*], 176696a

C_3H_4MgS
Magnesium, [1-propene-1-thiolato(2-)-C^3,S]- [*59231-09-3*], 94154h

C_3H_4N
Ethyl, 1-cyano- [*3264-99-1*], 169370m
—, 2-cyano- [*25840-11-3*], 169370m

C_3H_4NOP
Acetamide, *N*-(phosphinidynemethyl)- [*56764-37-5*], 4694g
monohydrobromide [*59348-37-7*], 4694g

$C_3H_4NO_2$
Cyclopropane, nitro-, ion(1-) [*60211-47-4*], 77396w
1-Propene, 3-nitro-, ion(1-) [*60211-46-3*], 77396w

$C_3H_4NO_2PS$
1,3,2-Dioxaphospholane, 2-isothiocyanato- [*20369-43-1*], 123229u

$C_3H_4NS_2$
2-Thiazolidinethione, ion(1-) [*60813-08-3*], 169397a

$C_3H_4N_2$
2-Azetamine [*59711-20-5*], 108196q
3-Azetamine [*59711-21-6*], 108196q
2-Aziridinecarbonitrile [*33898-53-2*], 20962y
1*H*-Imidazole [*288-32-4*]. See Chemical Substance Index
(*Z*)-2-butenedioate (1:1) [*58013-06-8*], 55015u
chloro[tetrakis(1,1-dimethylethyl)-29*H*,31*H*-phthalocyaninato(2-)-$N^{29},N^{30},N^{31},N^{32}$]=ferrate(1-) [*60384-03-4*], 100062v
cobalt(2+) salt [*42879-94-7*], 133670v
compd. with sulfur dioxide (1:1) [*52275-71-5*], P 5637c
compd. with sulfur dioxide (2:1) [*52275-72-6*], P 5637c
iron(2+) salt [*60255-69-8*], 54212u
monohydrochloride [*1467-16-9*], 32918b
mono[tetraphenylborate(1-)] [*33570-62-6*], P 48414v
perchlorate (2:1) [*60586-63-6*], 152178g
silver(1+) salt [*42879-93-6*], P 21371a
sodium salt [*5587-42-8*], P 160095t
1-Propene, 3-diazo- [*2032-04-4*], P 33275b, P 33364e, 62912n
2-Propenenitrile, 3-amino-, (*Z*)- [*24532-82-9*], 62315v
1*H*-Pyrazole [*288-13-1*], 15051w, 20461j, 29119m, 29202h, 45827w, 62979q, 63320e, 73036f, 77337c, 78185p, 105078q, 123160q, P 129227p, 131326p, 159552h, 171664d

$C_3H_4N_2O$
Acetamide, 2-cyano- [*107-91-5*], P 21120j, P 21348q, 32583p, 32785f, 46571v, 63006g, P 63085g, 77829q, 89818y, P 108530s, P 108683u, P 143094z, P 160072h, 176922w, 177304h, 192202s, P 194077d
Carbonocyanidic amide, methyl- [*39088-41-0*], P 77926u
2*H*-Imidazol-2-one, 1,5-dihydro- [*59589-63-8*], P 32838a
2-Propanone, 1-diazo- [*2684-62-0*], 5557b, 62490y, 93452a
1*H*-Pyrazol-3-ol [*60456-92-0*], 123080g
1*H*-Pyrazol-5-ol [*60456-93-1*], 123060g
3*H*-Pyrazol-3-one, 1,2-dihydro- [*137-45-1*], 123060g
—, 2,4-dihydro- [*137-44-0*], P 34103f
4*H*-Pyrazol-4-one, 2,3-dihydro- [*27662-65-3*], 123060g

$C_3H_4N_2OS$
4-Imidazolidinone, 2-thioxo- [*503-87-7*], P 143136q, 160021r, P 161303w
1,3,4-Oxadiazole-2(3*H*)-thione, 5-methyl- [*31130-17-3*], P 108669u, P 108670m
4-Thiazolidinone, 2-imino-, monohydrochloride [*2192-06-5*], 134978p

$C_3H_4N_2OS_2$
4-Thiazolidinone, 3-amino-2-thioxo- [*1438-16-0*], P 143114f, 161854b

$C_3H_4N_2O_2$
Acetic acid, diazo-, methyl ester [*6832-16-2*], 94159p, 108120h, P 108313y
Acetonitrile, (methoxyimino)-, *N*-oxide, (*E*)- [*34857-30-2*], 93667r, 93668a
—, (methyl-aci-nitro)-, (*Z*)- [*34961-81-4*], 93667r, 93668a

Carbamic acid, cyano-, methyl ester [*21729-98-6*], 21240y, P 21363r, P 88534r, P 192728t
methyl ester, sodium salt [*51234-99-1*], P 32469f
2,4-Imidazolidinedione [*461-72-3*], 958y, P 143136q, 160021r, 177924k
Sydnone, 3-methyl- [*6939-12-4*], 63001b

$C_3H_4N_2O_2S$
2*H*-1,2,4-Oxadiazin-3(4*H*)-one, dihydro-5-thioxo- [*59696-55-8*], 124272q
1,3,4-Thiadiazol-2(3*H*)-one, 5-methoxy- [*17605-27-5*], R 105126d

$C_3H_4N_2O_2S_2$
[illegible]-5-(methylsulfonyl)-
[illegible] [*5766-95-0*],
[illegible] [*7727-31-8*],
3*H*-Pyrazol-[illegible]-ylfoxy)- [*34771-55-6*], 123[illegible]

$C_3H_4N_2O_8U$
Uranate(2-), [ethanedioato(2-)-*O,O'*]=dioxoperoxy(urea-*O*)-, diammonium [*59930-14-2*], 28039v
dihydrogen, compd. with guanidine (1:2) [*59930-16-4*], 28039y
disodium [*59930-13-1*], 28039y

$C_3H_4N_2S$
1*H*-Imidazolethiol [*49556-19-6*], 178369v
1*H*-Imidazole-4-thiol [*24748-68-3*], 56576q
2*H*-Imidazole-2-thione, 1,3-dihydro- [*872-35-5*], P 21373u, P 21487j, P 33015a, 116550p
1,2,5-Thiadiazole, 3-methyl- [*5728-06-3*], 123257b
2-Thiazolamine [*96-50-4*], P 5421c, P 21090n, P 21360n, P 21417m, P 32657r, 32918h, P 46440b, 46480q, 63023k, P 63077f, 71605a, P 85521v, P 94380d, P 110024y, P 110094w, P 123972f, 153743k, P 158804e, P 159923e, 192323g
mono[4-[(methoxycarbonyl)amino]=benzenesulfonate] [*60007-74-1*], 63023k

$C_3H_4N_2S_2$
Carbamodithioic acid, cyano-, monomethyl ester, potassium salt [*10191-61-4*], 32911u, 108573h, P 108654k
1,2,4-Thiadiazole-5(2*H*)-thione, 3-methyl- [*36988-21-3*], P 5666m, P 21402c, P 46712a, P 46722v, P 108651g
1,3,4-Thiadiazole-2(3*H*)-thione, 5-methyl- [*29490-19-5*]. See Chemical Substance Index

$C_3H_4N_4$
1,2,4-Triazin-3-amine [*1120-99-6*], 46585c
1,3,5-Triazin-2-amine [*4122-04-7*], 123183z

$C_3H_4N_4O$
1,3,5-Triazin-2(1*H*)-one, 4-amino- [*931-86-2*], 71930u
monosilver(1+) salt [*20293-33-8*], 33348c
1*H*-1,2,4-Triazole-3-carboxamide [*3641-08-5*]. P 175579c
monosodium salt [*54666-78-3*], P 175579c

$C_3H_4N_4O_2$
2-Propenenitrile, 3,3-diamino-2-nitro- [*25713-54-6*], 46559z
1*H*-Tetrazole-1-acetic acid [*21732-17-2*], P 5667n, P 123929n, P 160137h
1,3,5-Triazine-2,4(1*H*,3*H*)-dione, 6-amino- [*645-93-2*], 104986x, 130074t, 143186f
copper salt [*37384-15-9*], 73115f
1*H*-1,2,4-Triazole, 1-methyl-3-nitro- [*26621-45-4*], 142176r
—, 1-methyl-5-nitro- [*26621-29-4*], 142176r
—, 3-methyl-5-nitro- [*24156-65-8*], 159994d
4*H*-1,2,4-Triazole, 4-methyl-3-nitro- [*26621-31-8*], 142176r
1*H*-1,2,3-Triazole-4-carboxamide, 5-hydroxy- [*3176-44-1*], P 6010e
monosodium salt [*59343-63-4*], P 6010e

$C_3H_4N_4S$
1*H*-1,2,4-Triazole-3-carbothioamide [*3641-11-0*], P 175579c

$C_3H_4N_6$
1*H*-1,2,4-Triazole, 3-azido-1-methyl- [*53566-56-6*], 142176r
—, 5-azido-1-methyl- [*53566-57-7*], 142176r
4*H*-1,2,4-Triazole, 3-azido-4-methyl- [*53566-58-8*], 142176r

$C_3H_4N_6O_4P_2$
Triamidodiphosphoric acid, *N,N',N''*-tricyano-, tetrasilver(1+) salt [*59857-28-2*], 40308t

C_3H_4O
Cyclopropanone [*5009-27-8*], 4855k, 142425w
Ethyne, methoxy- [*6443-91-0*], 93589n, 143067t
2-Oxetanylidene [*60644-32-8*], 142231e
2-Propenal [*107-02-8*]. See Chemical Substance Index
homopolymer [*25068-14-8*], 48130z, 89291w, 109251p, 160571v
homopolymer, compd. with sulfurous acid [*61574-00-3*], 160571v
polymer with benzaldehyde [*36313-35-6*], P 22105w
polymer with (chloromethyl)oxirane [*26797-38-6*], P 22104u
polymer with diethenylbenzene [*55279-67-9*], P 63981w
polymer with 2,2-dimethylpropanal [*36313-37-8*], P 22105w
polymer with ethenylbenzene [*25067-45-2*], 124798r
polymer with isocyanatobenzene [*26984-89-4*], P 63660r
polymer with 2-methyl-2-propenoic acid and 2-propenamide [*57604-75-8*], P 64929z

Parkin [522-00-9] $C_{19}H_{24}N_2S$
Parkinsonin A [6980-21-8] $C_{22}H_{22}O_{11}$
Parkinsonin B [6980-22-9] $C_{23}H_{24}O_{11}$
Parkopan [52-49-3] $C_{20}H_{31}NO.ClH$
ParKS 12 [511-45-5] $C_{20}H_{25}NO$
ParKS 12 Hommel [511-45-5] $C_{20}H_{25}NO$
Parlef [530-78-9] $C_{14}H_{10}F_3NO_2$
Parlite W [52907-18-3]
Parlodion [9004-70-0]
Parlon [9006-03-5]
Parlon P [58206-43-2]
Parlon P 5 [39390-75-5]
Parlon P 10 [39390-76-6]
Parmal [91-84-9] $C_{17}H_{23}N_3O$
Parmanil [8056-67-5] $C_{10}H_{13}N_5O_4.C_9H_{12}N_4O_3$
Parmarose T [39465-18-4]
Parmax AW 2 [11121-11-2]
Parmelin [479-20-9] $C_{19}H_{18}O_8$
Parmelin acid [479-20-9] $C_{19}H_{18}O_8$
Parmethasone acetate [1597-82-6] $C_{24}H_{31}FO_6$
Parmetol DF 30 [54392-06-2]
Parminal [72-44-6] $C_{16}H_{14}N_2O$
Parmol [103-90-2] $C_8H_9NO_2$
Parmon [24190-29-2] $C_{13}H_{20}O$
Parmone [24190-29-2] $C_{13}H_{20}O$
Parnate [13492-01-8] $C_9H_{11}N.^1/_2H_2O_4S$
Parnon [17781-31-6] $C_{18}H_{13}Cl_2NO$
Parnox [340-52-3] $C_{16}H_{13}N_3O_4$
Parodyne [60-80-0] $C_{11}H_{12}N_2O$
Paroil 142 [54510-94-0]
Paroil 170LC [39387-46-7]
Parol [59-50-7] C_7H_7ClO
Parolat U [50815-55-9]
Paroleine [8012-95-1]
Paromamine [534-47-4] $C_{12}H_{25}N_3O_7$
Paromamine 3'-phosphate [22642-86-0] $C_{12}H_{26}N_3O_{10}P$
Paromobiosamine [25423-15-8] $C_{11}H_{22}N_2O_8$
Paromomycin [7542-37-2] $C_{23}H_{45}N_5O_{14}$
Paromomycine [7542-37-2] $C_{23}H_{45}N_5O_{14}$
Paromomycin I [7542-37-2] $C_{23}H_{45}N_5O_{14}$
Paromomycin II [51795-47-2] $C_{23}H_{45}N_5O_{14}$
Paromomycin sulfate [7205-49-4] $C_{23}H_{45}N_5O_{14}.H_2O_4S$
Paromomycin sulfate [1263-89-4] $C_{23}H_{45}N_5O_{14}.xH_2O_4S$
Paromomycin sulphate [7205-49-4] $C_{23}H_{45}N_5O_{14}.H_2O_4S$
Paromose [527-10-6] $C_6H_{14}N_2O_4$
Paronit [12738-28-2]
Paronite [12738-28-2]
Paronit UV 10 [39421-87-9]
Parosan [5651-71-8] $C_{10}H_{11}AsN_2O_6$
Parosept [94-18-8] $C_{14}H_{12}O_3$
Parotin [1392-81-0]
S-Parotin [11015-90-0]
Parotin A [11015-89-7]
Parowax [8052-66-2]
Paroxan [311-45-5] $C_{10}H_{14}NO_6P$
Paroxazine [290-47-1] C_4H_5NO
Paroxon [70-70-2] $C_9H_{10}O_2$
Paroxyl [97-44-9] $C_8H_{10}AsNO_5$
Paroxypropione [70-70-2] $C_9H_{10}O_2$
Parpanil [77-22-5] $C_{18}H_{27}NO_2$
Parpanit [125-85-9] $C_{18}H_{27}NO_2.ClH$
Parpanit hydrochloride [125-85-9] $C_{18}H_{27}NO_2.ClH$
Parpanit methylbromide [29345-42-4] $C_{19}H_{30}NO_2.Br$
2-Parpargylthiobenzoxazole [52924-71-7] $C_{10}H_7NOS$
Parphezein [522-00-9] $C_{19}H_{24}N_2S$
Parpon [57-37-4] $C_{20}H_{25}NO_3.ClH$
Parquine [1400-78-8] $C_{21}H_{39}NO_8$
Parsettensite [12420-57-4]
Parsidol [522-00-9] $C_{19}H_{24}N_2S$
Parsidol [1094-08-2] $C_{19}H_{24}N_2S.ClH$
Parsidol hydrochloride [1094-08-2] $C_{19}H_{24}N_2S.ClH$
Parsidol monohydrochloride [1094-08-2] $C_{19}H_{24}N_2S.ClH$
Parsitan [522-00-9] $C_{19}H_{24}N_2S$
Parsley apiole [523-80-8] $C_{12}H_{14}O_4$
Parsley camphor [523-80-8] $C_{12}H_{14}O_4$
Parsley fruit oleoresin [8025-95-4]
Parsley oil [8000-68-8]
Parsley seed oil [8000-68-8]
Parsol [52441-07-3]
Parsol LG [8040-83-3]
Parsol MCX [5466-77-3] $C_{18}H_{26}O_3$
Parsol MOX [5466-77-3] $C_{18}H_{26}O_3$
Parsonite [56312-48-2] $H_2O.O_{10}P_2U.2Pb$
Parsonsite [56312-48-2] $H_2O.O_{10}P_2U.2Pb$
Parsonsite [12137-57-4] $H_2O.^1/_2O_{10}P_2U.Pb$
Parsotil [522-00-9] $C_{19}H_{24}N_2S$
Parstelin [8057-08-7] $C_{21}H_{24}F_3N_3S.C_9H_{11}N$
Partel [514-73-8] $C_{23}H_{23}N_2S_2.I$
Partergin [113-42-8] $C_{20}H_{25}N_3O_2$
Parterol [67-96-9] $C_{28}H_{46}O$
Parthemollin [23264-32-6] $C_{15}H_{20}O_4$
Parthenicin [508-59-8] $C_{15}H_{18}O_4$
Parthenin [508-59-8] $C_{15}H_{18}O_4$
Parthenolide [20554-84-1] $C_{15}H_{20}O_3$
Partially hydrolyzed gelatin [9000-70-8]
α Particle [12587-46-1]
β-Particle [12587-47-2]
τ Particle [12587-91-6]
Parton [12585-72-7]
Partons [12585-72-
Partricin [11096-4
Partricin butyl este
Partricin ethyl este
Partricin methyl e
Partricin propyl e
Partridgeite [123
Partschinite [124
Partusisten [1944-12-3] C17
Partzite [12420-59-6]
Paruraito W [52907-18-3]
Parvalbumin (Rana esculenta muscle, pI 4.50) [56832-33-8] $C_{520}H_{822}N_{134}O_{167}$
Parvalbumin (rabbit muscle) [56094-12-3] $C_{535}H_{850}N_{134}O_{170}S_3$
Parvalbumin (Merluccius merluccius muscle) [12687-92-2]
Parvalbumin (carp muscle) [9066-89-1]
Parvalbumin III (pike) [9066-90-4]
Parvalbumin III (Esox lucius) [52036-77-8] $C_{532}H_{845}N_{135}O_{166}S$
Parvalbumin (III Esox lucius) [52036-77-8] $C_{532}H_{845}N_{135}O_{166}S$
Parvalbumin (rabbit muscle) [56094-12-3] $C_{535}H_{850}N_{134}O_{170}S_3$
Parvex [99-00-3] $C_5H_{10}N_2S_2$
Parvifloral [21973-34-2] $C_{15}H_{18}O_3$
Parvisoflavanone [49776-79-6] $C_{17}H_{16}O_7$
Parvisoflavone-A [50277-01-5] $C_{20}H_{16}O_6$
Parvisoflavone-A acetate [49776-76-3] $C_{26}H_{22}O_9$
Parvisoflavone-B [50277-02-6] $C_{20}H_{16}O_6$
α-Parvoline [1123-96-2] $C_9H_{13}N$
β-Parvoline [612-11-3] $C_9H_{13}N$
Parvulin A [53025-22-2]
Parvulin B [53025-23-3]
Parvulin C [53025-24-4]
Parvuline A [53025-22-2]
Parvuline B [53025-23-3]
Parvuline C [53025-24-4]
Parwelite [12420-60-9]
Parylene [25722-33-2] $(C_8H_8)_n$
Parylene C [9052-19-1] $(C_8H_7Cl)_n$
Parylene M [31977-01-2] $(C_9H_{10})_n$
Parylene N [25722-33-2] $(C_8H_8)_n$
Parylene (poly-p-xylylene) [25951-90-0] $(C_8H_{10})_x$
Parzate [142-59-6] $C_4H_8N_2S_4.2Na$
Parzate [12122-67-7] $C_4H_6N_2S_4Zn$
Parzate Liquid [142-59-6] $C_4H_8N_2S_4.2Na$
Parzate zineb [12122-67-7] $C_4H_6N_2S_4Zn$
Parzone [125-28-0] $C_{18}H_{23}NO_3$
PAS [65-49-6] $C_7H_7NO_3$
PAS 22 [9056-39-7]
PAS 311 [53664-77-0]
Pasade [133-10-8] $C_7H_7NO_3.Na$
Pasaden [1256-01-5] $C_{23}H_{28}F_3N_3OS.2ClH$
Pasalon [133-10-8] $C_7H_7NO_3.Na$
Pasalon-Rakeet [133-10-8] $C_7H_7NO_3.Na$
Pasara [65-49-6] $C_7H_7NO_3$
Pasara calcium [133-15-3] $C_7H_7NO_3.^1/_2Ca$
Pascaine [15767-73-4] $C_{13}H_{20}N_2O_3.C_7H_7NO_3$
Pascoite [12049-91-1] $Ca.^1/_3H_6O_{28}V_{10}.^{17}/_3H_2O$
Pascoite [12135-52-3] $Ca.^1/_2H_4O_{17}V_6.^{11}/_2H_2O$
Pasem [65-49-6] $C_7H_7NO_3$
P3 Asepto 68 [12772-94-0]
Paseptol [94-13-3] $C_{10}H_{12}O_3$
Pasexon-100 T [527-07-1] $C_6H_{12}O_7.Na$
Pashanone [42438-78-8] $C_{17}H_{16}O_6$
PA-100 silica gel [7631-86-9] O_2Si
Pasinak-D [8060-49-9] $C_7H_7NO_3.C_6H_7N_3O.xNa$
Pasinak D [8060-49-9] $C_7H_7NO_3.C_6H_7N_3O.xNa$
Pasiniazide [2066-89-9] $C_7H_7NO_3.C_6H_7N_3O$
PASIT [80-34-2] $C_{11}H_{14}N_4O_2S_2$
PASK [65-49-6] $C_7H_7NO_3$
Paskalium [133-09-5] $C_7H_7NO_3.K$
Pasmed [65-49-6] $C_7H_7NO_3$
Pasmicina [133-15-3] $C_7H_7NO_3.^1/_2Ca$
PASNa [133-10-8] $C_7H_7NO_3.Na$
Pasnal [133-10-8] $C_7H_7NO_3.Na$
Pasnodia [65-49-6] $C_7H_7NO_3$
PASO 4 [32054-59-4] $(C_{10}H_{18}O_4.C_6H_{10}O_4.C_4H_{10}O_3)_x$
PASO 8 [32054-59-4] $(C_{10}H_{18}O_4.C_6H_{10}O_4.C_4H_{10}O_3)_x$
Pasolac [65-49-6] $C_7H_7NO_3$

APPENDIX 5

Identifying Chemical Substances Which Have No Known CAS Registry Number

All chemical substances which are reported for the Inventory must be identified clearly. For a substance with a Chemical Abstracts Service (CAS) Registry Number, reporting the CAS Registry Number and either a specific chemical name or EPA Code Designation ensures its unambiguous identification for the Inventory. To report a chemical substance which has no known CAS Registry Number, chemically descriptive information of the type specified in this Appendix must be submitted using Form C. Such information should be entered in the appropriate spaces provided in Block V of Form C. Supplemental sheets, if needed, should be attached to the form and bear the identifying Form Number of the specific Form C to which they are attached. (The Form Number appears in the upper left-hand corner of each Form.)

Class 1 and Class 2 Chemical Substances

The type of chemically descriptive information required to identify properly a chemical substance depends on whether the substance is a Class 1 or Class 2 substance.

A Class 1 substance is a chemical substance whose composition, except for impurities, can be represented by a definite chemical structure diagram. Examples of Class 1 substances are: trichloroethylene, benzene, sodium chloride, and dimethylmercury.

A Class 2 substance is a chemical substance whose composition, except for impurities, cannot be represented by a definite chemical structure diagram. Examples of Class 2 substances are: linseed oil, chlorinated butyl rubber, and the glycerol monoester of hydrogenated cottonseed oil acids.

Polymers which are prepared solely using Class 1 monomers are considered Class 1 substances. On the other hand, polymers (for example, alkyd resins) which are prepared using, in whole or in part, Class 2 monomers are considered Class 2 substances.

Reporting the Identity of a Class 1 Chemical Substance

The following information must be reported to identify a Class 1 chemical substance which has no known CAS Registry Number:

I. a specific chemical name,
II. the molecular formula, and
III. the chemical structure diagram.

Each item of information listed above is important to the proper identification of a Class 1 chemical substance and is discussed in detail below. In addition, several examples are provided which illustrate the type of information needed to identify and report a Class 1 chemical substance.

I. A Specific Chemical Name

In the space under "Specific Chemical Name" in Block V of Form C, a name should be entered which clearly and uniquely identifies the chemical substance being reported. The name should identify the positions of attachment of chemical

groups or of unsaturation, if any, by the use of locants. (Locants are numerals or Greek or Roman letters commonly used in a chemical name to designate the positions of unsaturated bonds or attachments of chemical groups in a molecule.) Failure to use locants in naming a substance which has several isomeric forms will create ambiguity in the identification of the specific chemical substance being reported. The following names, as examples, are ambiguous: ansidine, chlorotoluene, nitrosonaphthol, picolene, xylene. Chemical groups should also be described by terms which are unambiguous (e.g., "octyl" should not be used if "2-ethylhexyl" is meant). Stereochemical descriptors should be included in the substance name whenever appropriate.

If the substance is a salt, an ester, or an addition compound and one or both of the components are polybasic, the name should clearly specify the ratio of the components (or note that the ratio is unknown). For example:

Fumaric acid, monosodium salt
Mono(2-ethylhexyl) citrate
Glycerol 1,3-dibenzoate

It is essential that the specific chemical name you enter be unambiguous with respect to the chemical substance you are reporting. The name is the first item of information used in identifying a chemical substance. Any inconsistency among the name, the molecular formula, and the chemical structure diagram will necessarily require further clarification on your part before the chemical substance can be entered on the Inventory.

EPA also encourages you to enter, following the specific chemical name and separated by semicolons, other common names by which the chemical substance is identified in the scientific and technical literature, or in product listings. Do not, however, enter trademarks, abbreviations, acronyms, or laboratory designations.

II. The Molecular Formula

The molecular formula for a Class 1 chemical substance should be entered on the line provided in Block V. This formula is simply an inventory or summation of the kinds and numbers of atoms present in a molecule of the reported chemical substance. For example, C_6H_6 is the molecular formula for benzene, and C_2H_6 is the molecular formula for ethane.

In the case of salts or addition compounds, the molecular formula may be presented in either a single summation format or in the "dot-disconnect" format used by CAS. For example, the molecular formula for the dilithium salt of succinic acid could be presented as:

$C_4H_4Li_2O_4$ (single summation format)

OR

$C_4H_6O_4 \cdot 2Li$ (dot-disconnect format).

NOTE: In the "dot-disconnect" format the molecular formula for metal salts of acids includes the molecular formula of the neutral acid. Although acidic hydrogen atoms may be lost in salt formation they are, nevertheless, included in this format. Acidic hydrogen atoms lost in salt formation are not shown in the single summation format.

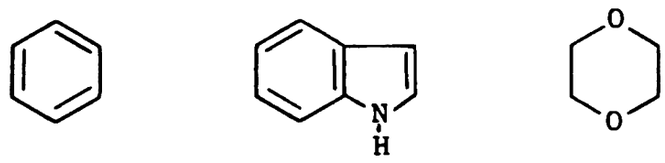
The molecular formulas for polymers, copolymers, and chemical substances comprised of polymeric repeating units may be presented in the manner described in the Molecular Formulas subsection of Appendix 3.

III. The Chemical Structure Diagram

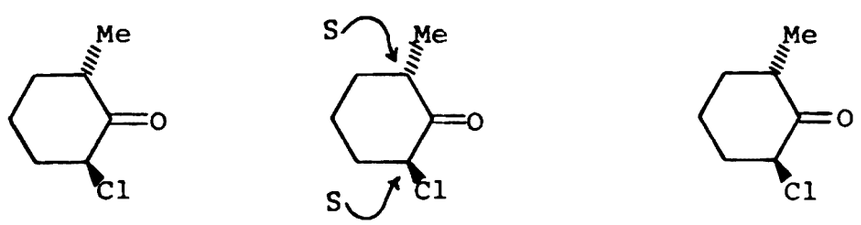
The chemical structure diagram should be entered in the space provided within Block V and should clearly indicate the identity of the atoms and the nature of the bonds joining the atoms. Commonly used functional group abbreviations or shortcuts are acceptable as long as they are unambiguous. For example:

-Me	-Et	-Pr	$-CO_2H$	$-SO_3H$
$-SO_2-$	$-NO_2$	-CO-	-CHO	-Ph

Alkyl groups represented by summation-type formulas (e.g., C_4H_9- or C_8H_{17}-) will be assumed to be normal or "straight chain" unless otherwise designated (e.g., tert-C_4H_9-). Carbon atoms in ring systems and their attached hydrogen atoms need not be explicitly shown. For example:



Any ionic charges or stereochemistry should be shown clearly. All known stereochemical details should be provided. There should also be some indication whether the stereochemistry shown in the diagram is absolute or merely relative. For example:



trans (i.e., relative) absolute ± (i.e., racemate)

Once again, just as in the case of the chemical substance name, the ratio of the components for an addition compound or salt should be indicated clearly if more than one form is at least theoretically possible. For example:

$(HO_2CCH_2)_2NCH_2CH_2N(CH_2CO_2H)_2$ disodium salt

$(HO_2CCH_2)_2NCH_2CH_2N(CH_2CO_2H)_2$ tetrasodium salt

$H_2N-(CH_2)_6-NH_2$ dihydrochloride

Class 1 Chemical Substance Identification Examples

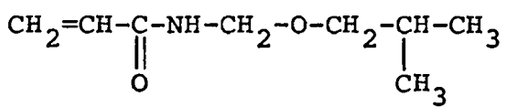
The eight examples which follow illustrate the information needed to identify Class 1 chemical substances properly. The examples are headed by a substance name which is too ambiguous to be used as a Class 1 substance name. In such cases, the comment points out the ambiguity. Proper information (name, formula, structure) for the identification of a specific Class 1 substance is then presented.

A. N-(isobutoxymethyl)acrylamide:

Comment: This chemical name unambiguously identifies a Class 1 substance.

NAME: N-(isobutoxymethyl)acrylamide

FORMULA: $C_8H_{15}NO_2$

STRUCTURE: 

B. Dixylylethane:

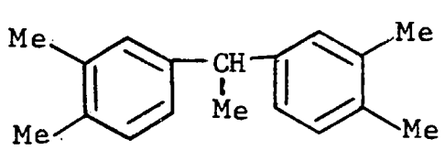
Comment: The name dixylylethane is ambiguous without the use of locants. The simple incorporation of locants into the name can eliminate the ambiguity. A specific Class 1 substance would be identified as:

NAME: 1,1-Di-3,4-xylylethane

OR

1,1-Bis(3,4-dimethylphenyl)ethane

FORMULA: $C_{18}H_{22}$

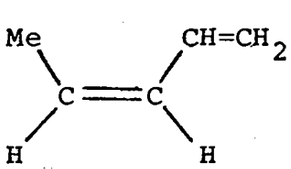
STRUCTURE: 

C. cis- and trans- Piperylene

Comment: Piperylene, or 1,3-Pentadiene, can be found on the Candidate List with CAS Registry Number 504-60-9. This CAS Registry Number, however, is for the non-stereospecific form of the substance. The cis- and trans-piperylenes, if reported as individual chemical substances, should clearly distinguish between the two isomeric forms.

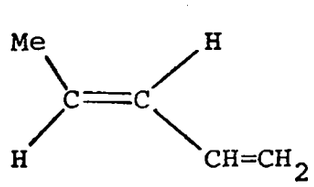
NAME: cis-Piperylene
(OR cis-1,3-Pentadiene)

FORMULA: C_5H_8

STRUCTURE: 

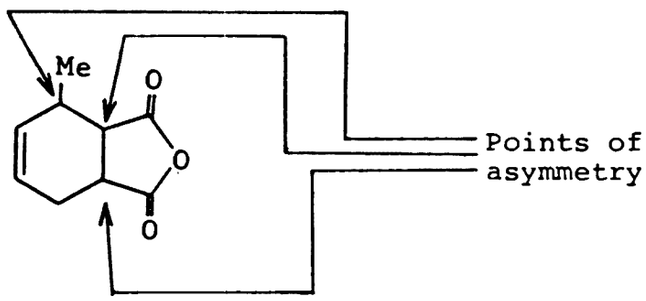
NAME: trans-Piperylene
(OR trans-1,3-Pentadiene)

FORMULA: C_5H_8

STRUCTURE: 

D. cis-3-Methyl-Δ^4-tetrahydrophthalic anhydride

Comment: While the name 3-Methyl-Δ^4-tetrahydrophthalic anhydride is a systematic or descriptive substance name, the designation cis is ambiguous. Inspection of the structural diagram for this substance shows three asymmetric carbon atoms, that is carbon atoms joined to four different atoms or groups of atoms.



The stereochemical designation "cis" indicates that two chemical groups or atoms are located on the same side of a reference plan through the molecule (in this case, the cyclohexene ring). It would take two such designations to uniquely describe the relationship among the three centers.

The following data would be adequate to describe the substance perhaps intended.

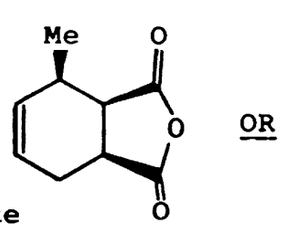
NAME: cis,cis-3-Methyl-Δ^4-tetrahydrophthalic anhydride

OR

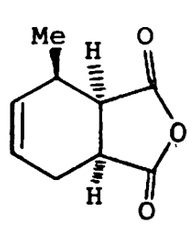
cis-3-Methyl-cis-Δ^4-tetrahydrophthalic anhydride

FORMULA: $C_9H_{10}O_3$

STRUCTURE:



OR



E. Sodium sebacate

Comment: Sebacic acid is a dibasic acid (i.e., decanedioic acid). Sodium sebacate could refer to the mono- or di- sodium salt. If the designation "sodium sebacate" refers to the fully neutralized acid, the precise designation "disodium sebacate" should be used to eliminate the ambiguity. The proper reporting in that case would be:

NAME: Disodium sebacate

FORMULA: $C_{10}H_{18}O_4 \cdot 2Na$ OR $C_{10}H_{16}Na_2O_4$

STRUCTURE: $HO_2C-(CH_2)_8-CO_2H \cdot 2Na$

OR

$HO_2C-(CH_2)_8-CO_2H$ salt

OR

$NaO_2C-(CH_2)_8-CO_2Na$

F. Chromium manganese oxide

Comment: The reporting of mixed metal compounds containing hydroxyl(-OH), oxy(-O-), oxo(=O), or peroxy(-O-O-) groups presents special problems. Depending upon the nature of the metals involved, these compounds may be represented as salts of inorganic oxo acids or as mixed metal oxides with no attempt to elucidate the structure beyond the basic elemental composition. The substance $CrMnO_4$ can be represented in three ways -- the chromium (2+) salt of manganic acid, the manganese (2+) salt of chromic acid or simply as chromium manganese oxide, i.e., structure unknown. The reporting of such substances, however, should be as specific as possible. The use of Stock Numbers in inorganic substance names is encouraged. (Stock numbers are Roman numerals added parenthetically to indicate the state or states of oxidation.) For example:

Iron(II) oxide FeO

Iron(III) oxide Fe_2O_3

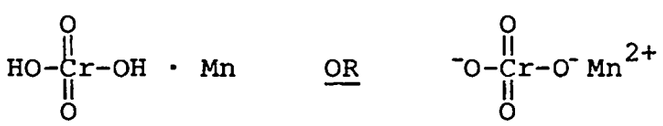
Iron(II,III) oxide Fe_3O_4

The following shows a preferred format for reporting a specific form of chromium manganese oxide.

NAME: Manganese(II) chromate(VI)

FORMULA: $H_2CrO_4 \cdot Mn$ OR $MnCrO_4$

STRUCTURE:



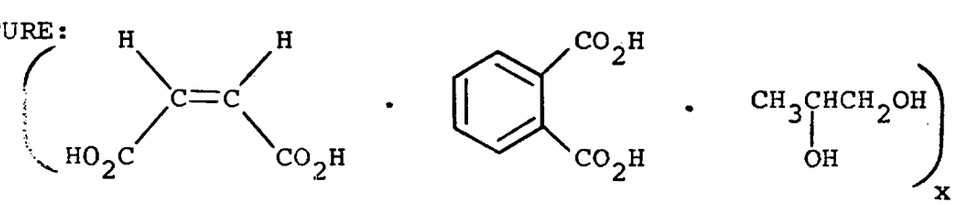
G. Maleic acid-phthalic acid-propylene glycol terpolymer

Comment: Synthetic polymers reported for the Inventory should be identified by name, structure, and formula in terms of the monomer(s) from which they have been prepared. Also see "Reporting Polymers" in Chapter 2, page 6

NAME: Maleic acid-phthalic acid-propylene glycol terpolymer

FORMULA: $(C_4H_4O_4 \cdot C_8H_6O_4 \cdot C_3H_8O_2)_x$

STRUCTURE:



[Note that the structure diagram for maleic acid clearly shows the cis-configuration.]

OR

Using information from the Candidate List:

$$\left(\begin{matrix}\text{maleic acid} \\ \text{110-16-7}\end{matrix} \cdot \begin{matrix}\text{phthalic acid} \\ \text{88-99-3}\end{matrix} \cdot \begin{matrix}\text{propylene glcycol} \\ \text{57-55-6}\end{matrix}\right)_x$$

H. Disodium salt of polyethylene glycol lauryl ether monosulfosuccinate

Comment: Polyethylene glycol and polypropylene glycol and their many derivatives are most conveniently represented on the basis of a structural repeating unit formula which simplifies the description of the end groups. The preferred reporting would include:

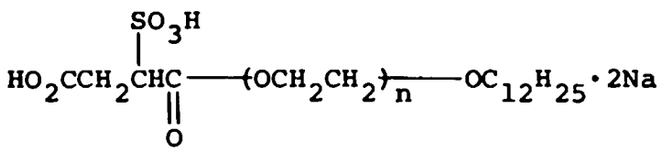
NAME: Disodium salt of polyethylene glycol lauryl ether monosulfosuccinate

FORMULA: $(C_2H_4O)_nC_{16}H_{30}O_7S \cdot 2Na$

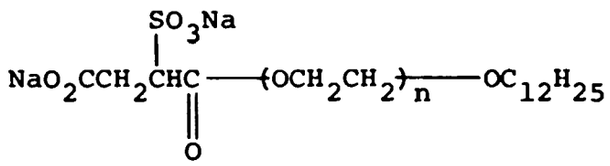
OR

$(C_2H_4O)_nC_{16}H_{28}Na_2O_7S$

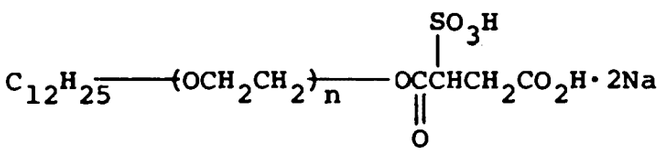
STRUCTURE:



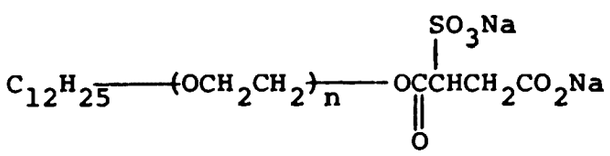
OR



OR



OR



Reporting the Identity of a Class 2 Chemical Substance

The following information should be reported to identify a Class 2 chemical substance having no known CAS Registry Number:

I. a specific name, and

II. the method of preparation.

Each item of information listed above is important for the identification of a Class 2 chemical substance. In addition, some Class 2 substances may be represented by a partial or incomplete chemical structure diagram, or may be described in terms of their general chemical composition. Each of these items of information is discussed below and illustrated by several examples.

I. A Specific Name

A Class 2 chemical substance should be identified by a name, entered in the space below "Specific Chemical Name" of Block V, which is as descriptive of the substance as possible. In some cases, the name may take the form of a specific chemical name containing locants, component ratios, and stereochemistry. In other cases, the best possible name may only identify the substance as the reaction product of specified reactants. Colour Index names and Enzyme Commission numbers are particularly useful and appropriate designations for dyes and enzymes, respectively. Bacteria and fungi (including yeasts) should be identified by their scientific (i.e., genus/species) names to provide maximum specificity.

EPA encourages you to enter, following the specific name and separated by semicolons, other common names by which the chemical substance is identified in the scientific and/or technical literature, or in product listings. Do not, however, enter trademarks, abbreviations, acronyms, or laboratory designations.

II. The Method of Preparation

In the space provided in Block V, enter a description of the final step of the method used to manufacture or produce the Class 2 chemical substance.

For substances prepared by chemical reaction, the description should appear in the form of a reaction scheme, for example:

$$A + B \rightarrow C.$$

The final reaction scheme should unambiguously identify, by name, the immediate precursor substance(s), the nature of the reaction, and the reactants whether or not they are implied by the term used to describe the nature of the reaction. The precursor substance(s) and/or the reactants should also be identified by their respective CAS Registry Number(s), if known. Reaction description terms should be as specific as possible (e.g., acetylation, alkaline hydrolysis, chlorination, diazotization, epoxidation). General reaction terms should, if at all possible, not be used (e.g., addition, condensation, reaction). The examples which follow this discussion indicate the appropriate placement of such information in the reaction scheme.

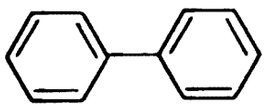
If a Class 2 chemical substance is produced by you through several different final reaction schemes, describe each of these final reaction schemes. For example, if it is produced by either $A + B \rightarrow C$ or by $D + E \rightarrow C$. Describe C in terms of both of these final reaction schemes.

For substances which have been produced without chemical reaction, for example, by extraction from a natural source or reaction mass, specify the source, extraction process and the nature of the extract.

Other Information

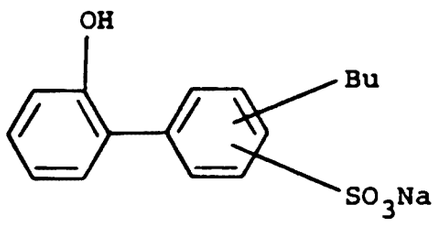
In some cases, a Class 2 chemical substances can be represented by a partial or incomplete chemical structure diagram. For example:

A. Hexabromobiphenyl

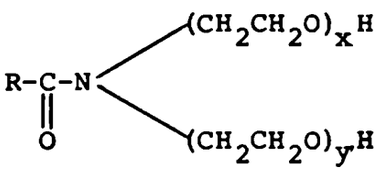


hexabromo derivative

B. Sodium butyl(o-hydroxyphenyl)benzenesulfonate



C. Ethoxylated hydrogenated tallow amide



R-C- = hydrogenated tallow fatty acid radical
‖
O

In such cases, enter in Block V the partial structural diagram of the reported Class 2 chemical substance, denoting it as such, in addition to its method of preparation.

In those cases where the general composition of the Class 2 substance is known, enter in Block V the major components in addition to method of preparation of the chemical substance (see Example A below).

Class 2 Chemical Substance Identification Examples

The seven examples listed below demonstrate how to identify properly a Class 2 chemical substance. Each example is headed by a common substance name.

A. Superphosphate

Comment: Superphosphate is a fertilizer obtained by treating phosphate rock with sulfuric acid. It may be reported in the following manner:

NAME: Superphosphate

PREPARATION: Phosphate rock $\xrightarrow{H_2SO_4(7664\text{-}93\text{-}9)}$

Consists predominately of $CaH_4(PO_4)_2$, $CaHPO_4$; and $CaSO_4$.

B. Chlorinated butyl rubber

Comment: Chlorinated butyl rubber is obtained by chlorination of butyl rubber, which is a copolymer of isobutylene and isoprene.

NAME: Chlorinated butyl rubber

PREPARATION: (isobutylene-isoprene)$_x$ copolymer 9010-85-9 $\xrightarrow[\text{chlorination}]{ClSO_2Cl\ (7791\text{-}25\text{-}5)}$

OR

$(CH_3\text{-}C(CH_3)=CH_2 / CH_2=CH\text{-}C(CH_3)=CH_2)_x$ $\xrightarrow[\text{chlorination}]{ClSO_2Cl\ (7791\text{-}25\text{-}5)}$

copolymer
9010-85-9

C. Blown Castor Oil

Comment: Blown castor oil is prepared by contacting castor oil with air or oxygen at 80-130°C. This results in oxidation along with some polymerization.

NAME: Blown castor oil

OR

Oxidized castor oil

PREPARATION: Castor oil *8001-79-4 $\xrightarrow[80\text{-}130^{\circ}C]{O_2\ (7782\text{-}44\text{-}7)}$

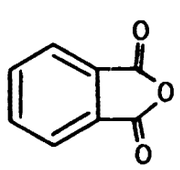
Oxidation plus some polymerization

D. Linseed oil-phthalic anhydride-glycerol resins

Comment: Linseed oil-phthalic anhydride-glycerol resins should be reported on the basis of their monomeric components like any Class 1 synthetic polymer.

NAME: Linseed oil-phthalic anhydride-glycerol resin

PREPARATION:

Linseed oil *8001-26-1 +  + $CH_2OH\text{-}CHOH\text{-}CH_2OH$ $\xrightarrow{\text{polymerization}}$

56-81-5

OR

Using information from the Candidate List:

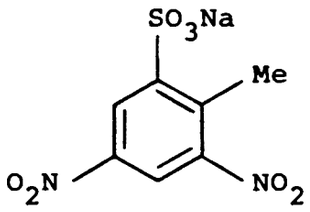
(Linseed oil *8001-26-1 R241-4789) + (Phthalic anhydride 85-44-9 B389-0687) + (Glycerol 56-81-5 R002-8254) $\xrightarrow{\text{polymerization}}$

E. C.I. Sulfur Brown 42

Comment: Sulfur dyes are made by heating organic materials with sulfur and sodium sulfide. The exact compositions of the resulting dyes are usually unknown. The preferred method for reporting dyes is to include the Colour Index name.

NAME: C.I. Sulfur Brown 42

PREPARATION:



6274-37-9

Na_2S (1313-82-2)
S (7704-34-9)

NOTE: The sodium salt of 2-methyl-3,5-dinitrobenzene sulfonic acid does not appear on the Candidate List. The CAS Registry Number for this reactant was found by consulting sources described in Appendix 4.

F. Anhydrosorbitol monoester of hydrogenated castor oil acids

Comment: While sorbitol is a well defined substance, anhydrosorbitol refers to a combination of cyclic dehydration products and thus is a Class 2 substance. The monoester might be reported as:

NAME: Anhydrosorbitol monoester of hydrogenated castor oil acids

PREPARATION:

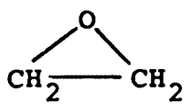
Anhydrosorbitol + hydrogenated castor oil acids *61790-39-4 —esterification→ mono esters

G. Ethoxylated anhydrosorbitol monoester of hydrogenated castor oil acids

Comment: The reaction product of the monoester described in Example F with ethylene oxide would be reported as:

NAME: Ethoxylated anhydrosorbitol monoester of hydrogenated castor oil acids

PREPARATION:

Anhydrosorbitol monoester of hydrogenated castor oil acids +  —polymerization→

75-21-8