



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE
OSWER Directive 9347.1-02

MEMORANDUM

SUBJECT: Policy for Superfund Compliance With the RCRA Land Disposal
Restrictions
FROM: Jonathan Z. Cannon
Acting Assistant Administrator
TO: Regional Administrators, Regions I-X

Purpose

To transmit the Superfund policy for complying with the RCRA land disposal restrictions (LDRs) at Superfund sites.

Background

CERCLA section 121(d) requires on-site Superfund remedial actions to comply with Federal, and more stringent State, environmental requirements that are determined to be applicable or relevant and appropriate requirements (ARARs). Section 121 also identifies six ARAR waivers: 1) interim remedy; 2) greater risk to human health and the environment; 3) technical impracticability; 4) equivalent standard of performance; 5) inconsistent application of State standard; and 6) Fund-balancing.

With regard to Superfund removal actions, the current NCP requires on-site removal actions to comply with Federal ARARs to the extent practicable, considering the exigencies of the situation. The preamble to the proposed NCP contains guidance on how to determine whether compliance is "practicable."

On-site removal and remedial actions must comply with substantive aspects of both applicable and relevant and appropriate requirements. Off-site removal and remedial actions must comply with both substantive and administrative aspects of applicable requirements only.

The RCRA land disposal restrictions are a potential ARAR for Superfund actions. As you may know, OERR is developing a guidance document to assist the Regions in complying with the LDRs. Although several issues must be resolved

before this guidance is issued, this memorandum will summarize one of the major issues that has been decided, namely, how to determine whether the LDRs are "applicable" to a Superfund response action. This policy will be discussed in greater detail in the guidance document.

Objective

In order to assist Regional removal and remedial staff in making current site decisions about the LDRs, this memorandum will explain: 1) how to determine when the LDRs are "applicable" to a Superfund removal or remedial action, and 2) the Superfund approach for complying with the LDRs when they are determined to be applicable. (This memorandum does not address how to make "relevant and appropriate" determinations.)

Implementation

Section A below explains how site managers (OSCs, RPMs) should determine whether the LDRs are "applicable" to a Superfund response action. Section B explains how Superfund intends to comply with the LDRs when they are determined to be applicable.

A. Application of the LDRs to CERCLA response actions

To determine if the LDRs are applicable to a given response action at a Superfund site, the site manager must answer three questions. The answer to each question must be "yes" for the LDRs to be applicable.

1. Does the CERCLA action constitute "placement"?

The LDRs are triggered as applicable requirements by "placement" of restricted RCRA hazardous wastes in land-based units.¹ Placement occurs when wastes are land disposed (or placed) in land-based RCRA units, such as landfills, surface impoundments, waste piles, and land treatment facilities. Placement does not occur if wastes are moved within a unit or are left in place (e.g., capping, in-situ treatment, consolidation within a unit). Placement does occur when wastes are moved from one unit and placed in another unit. For example, if wastes from a CERCLA site are disposed at an off-site landfill, this action constitutes placement.

However, the concept of a RCRA unit may be less useful for uncontrolled hazardous waste sites, which often involve widespread and dispersed contamination. Therefore, to assist in defining when placement occurs for on-site disposal at Superfund sites, the Agency has developed the concept of an

¹ Several LDR requirements (the storage restrictions, dilution prohibition, and off-site notification requirements, in particular) are triggered when restricted wastes are generated, or picked up, rather than when the wastes are "placed." However, the major LDR restrictions discussed in the remainder of this memorandum are triggered only if wastes are "placed."

"area of contamination" (AOC). An AOC is delineated by the extent of continuous contamination, although one AOC may contain varying types and concentrations of contamination. For example, a waste pit with the surrounding contaminated soil is one AOC and may be viewed as a single "unit," e.g., a single landfill. For the purposes of the LDRs, therefore, AOCs are equivalent to RCRA units.

Movement of waste within the AOC does not constitute placement, but movement of waste out of the AOC into another unit will trigger placement. Placement would occur if wastes from different AOCs are consolidated into one AOC or if wastes are removed and treated outside the AOC and returned to the same or a different AOC. Placement would also occur if wastes are excavated from the AOC, placed in an incinerator or tank located within the AOC, and then redeposited into the AOC, because the incinerator and tank are considered separate units from the AOC.

2. Is the CERCLA waste also a RCRA hazardous waste?

The LDRs are applicable only to RCRA hazardous wastes (i.e., listed and characteristic wastes identified under §261). However, not all wastes at Superfund sites are RCRA hazardous wastes. Therefore, the site manager must decide if it is reasonably ascertainable, within the scope of the Superfund site investigation, that the CERCLA waste is also a RCRA hazardous waste. Reasonable efforts must be used to collect the information needed to determine if a waste is a RCRA listed or characteristic waste. (It is expected that current data collection efforts at Superfund sites should be sufficient for this purpose.) The site manager should have affirmative evidence (e.g., manifests, records, knowledge of process) to demonstrate that the Superfund waste is a RCRA hazardous waste for the LDRs to be potentially applicable.

To determine whether a CERCLA waste is a RCRA characteristic waste, site managers may test the waste or use their knowledge of the properties of the waste. To determine if a waste is a listed waste, sampling alone will not be sufficient. The RCRA listing descriptions will generally require that the site manager have knowledge about the source of the waste (for example, did the sludge on site result from a wastewater treatment operation?) or its prior use (e.g., was the waste unused when it was discarded?).

If the site manager determines that the site waste is a RCRA hazardous waste, he/she ~~must~~ also determine if that waste is a "California list" waste. The ~~California list~~ wastes are a distinct category of RCRA hazardous wastes regulated under the LDRs. The LDR regulations describe the California list wastes and they will be discussed in the forthcoming guidance document.

3. Is the RCRA waste restricted under the LDRs at the time of placement?

The land disposal restrictions are being phased in for the RCRA hazardous wastes over a period of time. Attachment 1 presents the LDR statutory deadlines established by section 3004 of the 1984 RCRA amendments. A RCRA waste becomes a restricted waste under the LDRs on its statutory deadline, or earlier if EPA chooses to promulgate treatment standards for a waste prior to this deadline. Note that after May 1990, all RCRA hazardous wastes (that were

listed or characteristic as of the 1984 RCRA amendments) will be restricted under the LDRs.

To determine if the LDRs are applicable, site managers should determine if the RCRA waste will be restricted under the LDRs at the time the waste is to be placed.

To summarize Section A, the LDRs are applicable when three conditions are met: 1) the CERCLA action constitutes placement, 2) the CERCLA waste is a RCRA hazardous waste, and 3) the RCRA waste is restricted at the time of placement. If these conditions are met, the CERCLA action must comply with the LDRs, unless an ARAR waiver is granted (remedial actions) or compliance with the LDRs is determined not to be "practicable" (removal actions).

B. Superfund compliance with the LDRs

Section B briefly describes the different types of LDR requirements and provides an overview of the Superfund approach for complying with these LDR requirements when they are determined to be "applicable." Section B describes only the major LDR restrictions; the upcoming guidance document will give a complete description of all LDR provisions.

1. Summary of the major LDR requirements

When a waste becomes "restricted" on its statutory deadline (or possibly earlier), one of four types of restrictions will take effect:

Treatment standard (§268.40-43) - The RCRA amendments direct EPA to promulgate treatment standards for all RCRA hazardous wastes by the statutory deadlines. To date, most of the standards set by EPA are concentration levels that must be achieved prior to land disposal. (The regulations specify whether a total waste analysis or the Toxicity Characteristic Leaching Procedure (TCLP) must be used to measure the concentration levels.) For concentration-based treatment standards, any technology may be used to achieve these standards. However, in limited cases, EPA has also promulgated a specific technology as a treatment standard, or has established a "no land disposal" treatment standard where a waste was no longer generated, no longer being land disposed, or was capable of being totally recycled.

National capacity extension (§268.30-33) - When EPA sets a treatment standard for a waste, it must also determine if there is sufficient capacity available nationwide to treat the waste to that standard. If not, EPA may grant a nationwide capacity extension for the waste for up to two years. During the extension, the waste does not have to meet the treatment standard. However, if waste that does not meet the standard is disposed in a landfill or surface impoundment, the receiving unit must meet the RCRA §3004(o) minimum technology requirements (e.g., double liner, leachate collection system, ground water monitoring). Because of these limitations on disposal, wastes are still considered "restricted" during national capacity extensions.

Attachment 2 Highlights the national capacity extensions that EPA has granted to date for CERCLA soil and debris wastes that are contaminated with RCRA restricted wastes.

Soft hammer (§268.8) - If EPA fails to set a treatment standard for a First or Second Third waste on the statutory deadline, the soft hammer goes into effect automatically. The soft hammer places two requirements on the disposal of wastes in landfills and surface impoundments: 1) the receiving unit must meet the RCRA minimum technology requirements, and 2) the generator must demonstrate and certify that he has investigated treatment options for the waste, and, where treatment is practically available, that the waste has been treated using the best practically available treatment method. The soft hammer remains in effect until EPA sets a treatment standard for the waste, or until the hard hammer falls in May 1990, whichever comes first.

Hard hammer (RCRA §3004(g)(6)(C)) - If EPA fails to set a treatment standard for a solvent, dioxin, or California list waste by the statutory deadlines for these wastes, or for any "Third" waste by May 1990, the hard hammer falls. The hard hammer prohibits all land disposal of the affected waste.

Compliance with RCRA and the LDRs may also be obtained through several options other than meeting the restrictions above. It is important to note that these options constitute compliance with RCRA; they do not require an ARAR waiver under CERCLA.

A Treatability Variance (§268.44) is available when a treatment standard has been set for a waste. The variance can be used where, because the site manager's waste is significantly different from the waste used by EPA to set the treatment standard, the standard cannot be met or the BDAT technology is inappropriate. The variance can be granted either administratively, for a particular waste at a particular site, or through a rule-making procedure, which establishes a new nationwide waste category and associated treatment standard.

An Equivalent Treatment Method Petition (§268.42) can be used where a treatment standard is a specified technology, but the site manager can demonstrate that another technology can achieve an equivalent measure of performance.

A No-Migration Petition (§268.6) can be used as an alternative to any of the four restrictions above. The site manager must demonstrate that there will be no migration of hazardous constituents above health-based levels from the disposal unit or injection zone for as long as the waste remains hazardous.

Delisting (§260.20 and §260.22) can be used as an alternative to any of the four restrictions above, when the RCRA hazardous waste is a listed waste. The site manager must demonstrate that: 1) the waste does not meet any of the criteria under which the waste was listed, and 2) other factors

(including additional constituents) would not cause the waste to be hazardous.

2. Superfund approach for complying with the LDR requirements

The present Superfund approach for complying with the LDRs when they are applicable requirements is illustrated below:

CASE A: CERCLA liquid or sludge wastes that are also RCRA restricted hazardous wastes

CERCLA liquid + RCRA restricted + Placement = LDR is applicable. Must
or sludge hazardous waste comply (unless CERCLA
ARAR waiver is granted).
If the LDR restriction is
a treatment standard,
evaluate whether it can
be met. If not,
determine if a
Treatability Variance or
other RCRA option is
appropriate.

CASE B: CERCLA soil or debris wastes that contain RCRA restricted hazardous wastes

CERCLA soil + RCRA restricted + Placement = LDR is applicable. Must
or debris hazardous waste comply (unless CERCLA
ARAR waiver is granted).
If LDR restriction is a
treatment standard, will
generally be appropriate
to seek a Treatability
Variance. Other RCRA
options may also be
appropriate.

CERCLA response actions often address waste matrices, such as contaminated soil and debris, that are different from the RCRA industrial wastes used to set the LDR treatment standards. Therefore, the Agency is undertaking a rulemaking that will set LDR treatment standards specifically for contaminated soil and debris. Until that rulemaking is completed, site managers should use the data collected during the removal and remedial site investigations to support a Treatability Variance for soil and debris where necessary. As part of this interim approach, the Agency is developing specific guidance for obtaining a Treatability Variance for soil and debris, which establishes alternate treatment levels or methods for soil and debris.

If you have further questions, you may call the Headquarters Superfund Regional Coordinators, Carolyn Offutt of the CERCLA program (FTS 475-9760), or Michaelle Wilson of the RCRA land disposal restrictions program (FTS 382-4770).

Attachments

cc: Regional Counsel, Regions I-X
Director, Waste Management Division, Regions I, IV, V, VII, and VIII
Director, Emergency and Remedial Response Division, Region II
Director, Hazardous Waste Management Division, Regions III and VI
Director, Toxics and Waste Management Division, Region IX
Director, Hazardous Waste Division, Region X
Environmental Services Division Directors, Regions I, VI, and VII
Henry Longest
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Superfund Branch Chiefs, Regions I-X
Oil and Hazardous Materials Coordinators, Regions I-X
Bettie Van Epps, OERR Document Coordinator

Attachment 1

LDR STATUTORY DEADLINES

RCRA HAZARDOUS WASTE	STATUTORY DEADLINE*
Spent solvent wastes (F001-F005)	November 8, 1986
Dioxin wastes (F020-F023 and F026-F028)	November 8, 1986
California list wastes <ul style="list-style-type: none"> - Any RCRA hazardous waste; and - Liquid (except for HOCs); and - Exceeds statutory prohibition level for certain cyanides, metals, corrosives, PCBs or HOCs 	July 8, 1987
CERCLA/RCRA corrective action soil and debris (Solvent-containing, dioxin-containing, and California list wastes only)	November 8, 1988
First Third wastes (listed RCRA hazardous wastes)	August 8, 1988
Second Third wastes (listed RCRA hazardous wastes)	June 8, 1989
Third Third wastes (listed and characteristic RCRA hazardous wastes)	May 8, 1990
New RCRA wastes (any RCRA hazardous waste listed or identified under RCRA 3001 after November 8, 1984)	Within 6 months of listing or identification**

* These dates are statutory deadlines in HSWA. On this date, some type of LDR restriction will apply (i.e., treatment standard, minimum requirement during national capacity extension, soft hammer, hard hammer). However, the Agency also has the authority to restrict a waste earlier than its statutory deadline. Currently, the Agency is planning to restrict certain Third Third wastes in the June 1989 Second Third rule, so individual regulations must be checked.

** If EPA misses the 6 month deadline, the waste will not be restricted under the LDRs because HSWA contained no hammer provisions for newly identified wastes.

Attachment 2

LDR NATIONAL CAPACITY EXTENSIONS FOR CERCLA SOIL AND DEBRIS

Waste Category	Statutory Deadline	Treatment Standard Effective Date
Solvent (F001-F005)	November 8, 1988	November 8, 1990*
Dioxin (F020-F023 and F026-F028)	November 8, 1988	November 8, 1990*
California list (HOCs)	November 8, 1988	November 8, 1990*
First Third:		
Wastes where BDAT is incineration	August 8, 1988	August 8, 1990*
Wastes where BDAT is other than incineration	August 8, 1988	August 8, 1988**
Soft hammer wastes - treatment standard not set; must meet soft hammer restrictions as of 8/8/88	August 8, 1988	N/A

* The effective date is based on the granting of a national capacity extension. During the capacity extension, the soil and debris do not have to meet the promulgated treatment standards. However, if soil or debris that does not meet the standard is disposed in a landfill or surface impoundment, the receiving unit must meet the RCRA minimum technology requirements (double liner, leachate collection system, ground water monitoring).

** Except for K048-K052 and K071, which were granted capacity extensions until August 8, 1990.

APPENDIX A-1

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

**A-1(A) - CHARACTERISTIC, SOLVENT- AND DIOXIN-CONTAINING, AND FIRST AND SECOND THIRD
WASTES**

A-1(B) - CALIFORNIA LIST WASTES

SEPTEMBER 1989

APPENDIX A-1 (a)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a)-1

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
CHARACTERISTIC WASTES (40 CFR 261.21-.24)				
D001 Ignitable Wastes	All	5/8/90	To be determined	Will be restricted in Third Third rule
D002 Corrosive Wastes	All	5/8/90	To be determined	Will be restricted in Third Third rule
D003 Reactive Wastes	All	5/8/90	To be determined	Will be restricted in Third Third rule
D004 Arsenic	All	5/8/90	To be determined	Will be restricted in Third Third rule
D005 Barium	All	5/8/90	To be determined	Will be restricted in Third Third rule
D006 Cadmium	All	5/8/90	To be determined	Will be restricted in Third Third rule
D007 Chromium	All	5/8/90	To be determined	Will be restricted in Third Third rule
D008 Lead	All	5/8/90	To be determined	Will be restricted in Third Third rule
D009 Mercury	All	5/8/90	To be determined	Will be restricted in Third Third rule
D010 Selenium	All	5/8/90	To be determined	Will be restricted in Third Third rule
D011 Silver	All	5/8/90	To be determined	Will be restricted in Third Third rule
D012 Endrin	All	5/8/90	To be determined	Will be restricted in Third Third rule
D013 Lindane	All	5/8/90	To be determined	Will be restricted in Third Third rule
D014 Methoxychlor	All	5/8/90	To be determined	Will be restricted in Third Third rule

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).2

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
D015 Toxaphene	All	5/8/90	To be determined	Will be restricted in Third Third rule
D016 2,4-D	All	5/8/90	To be determined	Will be restricted in Third Third rule
D017 2,4,5-TP Silvex	All	5/8/90	To be determined	Will be restricted in Third Third rule

LISTED WASTES (40 CFR 261.31-.33)

F001-F005 Spent Solvents	All, except as noted below	11/8/86 - Final	Treatment Standards	Final, unless standards revised
	Solvent wastes from small quantity generators (SQGs) (>100 kg/month and <1000 kg/month)	11/8/88 - Final *11/8/86 - 11/8/88	Treatment Standards National Capacity Extension/ Minimum Technology Requirements	Final, unless standards revised
	Solvent wastes generated from CERCLA/RCRA corrective actions (except contaminated soil and debris)	11/8/88 - Final *11/8/86 - 11/8/88	Treatment Standards National Capacity Extension/ Minimum Technology Requirements	Final, unless standards revised
	Initial generator's solvent-water mixtures, solvent-containing sludges or solids, or non-CERCLA/RCRA corrective action soils with < 1 percent total (F001-F005) solvent constituents	11/8/88 - Final *11/8/86 - 11/8/88	Treatment Standards National Capacity Extension/ Minimum Technology Requirements	Final, unless standards revised
	Soil and debris from CERCLA/RCRA corrective actions	11/8/88	National Capacity Extension/ Minimum Technology Requirements	Extension expires 11/8/90

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).3

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
F006 Electroplating wastes	Nonwastewaters	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Nonwastewaters (Cyanides)	7/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Wastewaters	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
F007 Electroplating wastes	All	7/8/89	Treatment Standards - concentration levels or National Capacity Extension/Minimum Technology Requirements (for underground injected wastes)	Final, unless standards revised; extension expires June 8, 1991, for underground injection only
		*8/8/88 - 7/8/89	Soft hammer provisions ⁵	
F008 Electroplating wastes	All	7/8/89	Treatment Standards - concentration levels	Final, unless standards revised
		*6/8/89 - 7/8/89	Minimum Technology Requirements	
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	
F009 Electroplating wastes	All	7/8/89	Treatment Standards - concentration levels	Final, unless standards revised
		*6/8/89 - 7/8/89	Minimum Technology Standards	
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	
F010 Metal heat- treating wastes	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).4

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
F011 Metal heat-treating wastes	Nonwastewaters	12/8/89	Final Treatment Standards - concentration levels (110 mg/kg for total cyanides and 9.1 mg/kg for amenable cyanides)	Final, unless standards revised
		*7/8/89 - 12/8/89	Interim Treatment Standards - F007, F008, and F009 nonwastewater standards (i.e., 590 mg/kg for total cyanides and 30 mg/kg for amenable cyanides)	
		*6/8/89 - 7/8/89	Minimum Technology Requirements	
	Wastewaters	7/8/89	Treatment Standards - concentration levels	Final, unless standards revised
		*6/8/89 - 7/8/89	Minimum Technology Requirements	
F012 Metal heat-treating wastes	Nonwastewaters	12/8/89	Final Treatment Standards - concentration levels (110 mg/kg for total cyanides and 9.1 mg/kg for amenable cyanides)	Final, unless standards revised
		*7/8/89 - 12/8/89	Interim Treatment Standards - F007, F008, and F009 nonwastewater standards (i.e., 590 mg/kg for total cyanides and 30 mg/kg for amenable cyanides)	
		*6/8/89 - 7/8/89	Minimum Technology Requirements	
	Wastewaters	7/8/89	Treatment Standards - concentration levels	Final, unless standards revised
		*6/8/89 - 7/8/89	Minimum Technology Requirements	
F019 Aluminum coating wastes	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

*** September 1989 ***

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).5

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
F020-F023 Dioxin wastes from chlorophenol and chlorobenzene production	All, except as noted below	11/8/88	Treatment Standards	Final, unless standards revised
	Soil and debris from CERCLA/RCRA corrective actions	11/8/88	National Capacity Extension/ Minimum Technology Requirements	Extension expires Nov. 8, 1990. Soil and debris treatment standards to be promulgated
F024 Chlorinated Aliphatic Hydrocarbon production wastes	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
F026-028 Dioxin wastes from chlorophenol and chlorobenzene production	All, except as noted below	11/8/88	Treatment Standards	Final, unless standards revised
	Soil and debris from CERCLA/RCRA corrective actions	11/8/88	National Capacity Extension/ Minimum Technology Requirements	Extension expires Nov. 8, 1990. Soil and debris treatment standards to be promulgated
K001 Wood preserving wastes	All, except as noted below	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	8/8/88	National Capacity Extension/ Minimum Technology Requirements	Extension expires Aug. 8, 1990.
K002 Chrome yellow and orange pigment production wastes		5/8/90	To be determined	Will be restricted in the Third Third rule
K003 Molybdate orange pigment production wastes		5/8/90	To be determined	Will be restricted in the Third Third rule
K004 Zinc yellow pigment production wastes	Nonwastewaters	5/8/90	To be determined	Will be restricted in the Third Third rule
		*8/8/88 6/8/89	Treatment Standards - no land disposal	
	Wastewaters	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).6

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K005 Chrome green pigment production wastes	Nonwastewaters disposed of after June 8, 1989	6/8/89	Treatment Standards - no land disposal	Final, unless standards revised
	Nonwastewaters disposed of before June 8, 1989	5/8/90	To be determined	Will be restricted in the Third Third rule
	Wastewaters	5/8/90	To be determined	Will be restricted in the Third Third rule
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K006 Chrome oxide green pigment production wastes		5/8/90	To be determined	Will be restricted in the Third Third rule
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K007 Iron blue pigment production wastes	Nonwastewaters disposed of after June 8, 1989	6/8/89	Treatment Standards - no land disposal	Final, unless standards revised
	Nonwastewaters disposed of before June 8, 1989	5/8/90	To be determined	Will be restricted in the Third Third rule
	Wastewaters	5/8/90	To be determined	Will be restricted in the Third Third rule
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K008 Green pigment chrome oxides production wastes	Nonwastewaters	5/8/90	To be determined	Will be restricted in Third Third rule
		*8/8/88 6/8/89	Treatment Standards - no land disposal	
	Wastewaters	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
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K009 Acetaldehyde production wastes	Nonwastewaters	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Wastewaters	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised; extension expires June 8, 1991, for underground injection only
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).7

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K010 Acetaldehyde production wastes	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K011 Acrylonitrile production wastes	Nonwastewaters	6/8/89	Treatment Standards - concentration levels or National Capacity Extension/Minimum Technology Requirements (for underground injected wastes)	Final, unless standards revised; extension expires June 8, 1991, for underground injection only
		*8/8/88 6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Wastewaters	8/8/88	Soft hammer provisions ⁵	
	Soil and Debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K013 Acrylonitrile production wastes	Nonwastewaters	6/8/89	Treatment Standards - concentration levels or National Capacity Extension/Minimum Technology Requirements (for underground injected wastes)	Final, unless standards revised; extension expires June 8, 1991, for underground injection only
		*8/8/88 6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Wastewaters	8/8/88	Soft hammer provisions ⁵	
	Soil and Debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).8

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K014 Acrylonitrile production wastes	Nonwastewaters	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	
	Wastewaters	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K015 Benzyl chloride distillation wastes	Nonwastewaters	5/8/90	To be determined	Will be restricted in Third Third rule
		*8/8/88 - 5/2/89	Treatment Standards - no land disposal	
	Wastewaters	5/8/90	To be determined	Will be restricted in Third Third rule
		*8/8/88 - 5/2/89	Treatment Standards - concentration levels	
	Soil and debris	5/8/90	To be determined	Will be restricted in Third Third rule
		*8/8/88 - 5/2/89	National Capacity Extension/ Minimum Technology Requirements	
K016 Carbon Tetrachloride production wastes	All, except as noted below	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	8/8/88	National Capacity Extension/ Minimum Technology Requirements	Extension expires Aug. 8, 1990
K017 Epichlorohydrin production wastes	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K018 Ethyl chloride production wastes	All, except as noted below	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	8/8/88	National Capacity Extension/ Minimum Technology Requirements	Extension expires Aug. 8, 1990

* Restriction in effect only for period noted.

*** September 1989 ***

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).9

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K019 Ethylene dichloride production wastes	All, except as noted below	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	8/8/88	National Capacity Extension/ Minimum Technology Requirements	Extension expires Aug. 8, 1990
K020 Vinyl chloride production wastes	All, except as noted below	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	8/8/88	National Capacity Extension/ Minimum Technology Requirements	Extension expires Aug. 8, 1990
K021 Fluoromethanes production wastes	Nonwastewaters disposed of after August 17, 1988	5/2/89	Treatment Standards- no land disposal	Final, unless standards revised
	Nonwastewater generated from treatment of wastewater or originally disposed of before August 17, 1988	5/2/89	To be determined	Will be restricted in Third Third rule
	Nonwastewaters (all)	*8/8/88 - 5/2/89	Treatment standard - no land disposal	
	Wastewaters	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K022 Phenol/acetone production wastes	Nonwastewaters	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Wastewaters	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Soil and debris	8/8/88	National Capacity Extension/Minimum Technology Requirements	Extension expires Aug. 8, 1990
K023 Phthalic anhydride production wastes	All, except as noted below	6/8/89	Treatment standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a)-10

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K024 Phthalic anhydride production wastes	All, except as noted below	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	8/8/88	National Capacity Extension/Minimum Technology Requirements	Extension expires Aug. 8, 1990
K025 Nitrobenzene production wastes	Nonwastewaters disposed of after August 17, 1988	5/2/89	Treatment Standards - no land disposal	Final, unless standards revised
	Nonwastewater generated from treatment of wastewater or originally disposed of before August 17, 1988	5/2/89	To be determined	Will be restricted in Third Third rule
	Nonwastewaters (all)	*8/8/88 - 5/2/89	Treatment Standards - no land disposal	
	Wastewaters	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K026 Methyl ethyl pyridines production wastes		5/8/90	To be determined	Will be restricted in the Third Third rule
K027 Toluene diisocyanate production wastes	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K028 1,1,1-Trichloroethane production wastes	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).11

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K029	Nonwastewaters	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
1,1,1-Trichloroethane production wastes	Wastewaters	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K030	All, except as noted below	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
Trichloroethylene & perchloroethylene production wastes	Soil and debris	8/8/88	National Capacity Extension/Minimum Technology Requirements	Extension expires Aug. 8, 1990
K031	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K032		5/8/90	To be determined	Will be restricted in the Third Third rule
Chlordane production wastes		5/8/90	To be determined	Will be restricted in the Third Third rule
K033		5/8/90	To be determined	Will be restricted in the Third Third rule
Chlordane production wastes		5/8/90	To be determined	Will be restricted in the Third Third rule
K034		5/8/90	To be determined	Will be restricted in the Third Third rule
Chlordane production wastes		5/8/90	To be determined	Will be restricted in the Third Third rule
K035	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
Cresote production wastes		8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).12

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K036 Disulfoton production wastes	Nonwastewaters disposed of after August 17, 1988	5/2/89	Treatment Standards - no land disposal	Final, unless standards revised
	Nonwastewater generated from treatment of wastewater or originally disposed of before August 17, 1988	5/2/89	To be determined	Will be restricted in Third Third rule
	Nonwastewaters (all)	*8/8/88 - 5/2/89	Treatment Standards - no land disposal	
	Wastewaters	6/8/89 *8/8/88 - 6/8/89	Treatment Standards - concentration levels Soft hammer provisions ⁵	Final unless standards revised
K037 Disulfoton production wastes	All, except as noted below	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	8/8/88	National Capacity Extension/Minimum Technology Requirements	Extension expires Aug. 8, 1990
K038 Phorate production wastes	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K039 Phorate production filter cakes	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K040 Phorate production wastes	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K041 Toxaphene production wastes	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

*** September 1989 ***

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).13

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K042 2,4,5-T production wastes	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K043 2,4-D production wastes	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K044 Explosives production wastes	All	8/8/88	Treatment Standards - no land disposal	Final, unless standards revised
K045 Spent carbon from explosives treatment	All	8/8/88	Treatment Standards - no land disposal	Final, unless standards revised
K046 Wastes from Lead- based initiating compounds	Nonreactive nonwastewaters	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Reactive nonwastewaters	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Wastewaters	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K047 TNT operations waste	All	8/8/88	Treatment Standards - no land disposal	Final, unless standards revised
K048 Petroleum refining industry wastes	All	8/8/88 - 8/8/90	National Capacity Extension/ Minimum Technology Requirements	
		8/8/90 - Final	Treatment Standards - concentration levels	Final, unless standards revised
K049 Petroleum refining industry wastes	All	8/8/88 - 8/8/90	National Capacity Extension/ Minimum Technology Requirements	
		8/8/90 - Final	Treatment Standards - concentration levels	Final, unless standards revised

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a)-14

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K050 Petroleum refining industry wastes	All	8/8/88 - 8/8/90	National Capacity Extension/ Minimum Technology Requirements	
		8/8/90 - Final	Treatment Standards - concentration levels	Final, unless standards revised
K051 Petroleum refining industry wastes	All	8/8/88 - 8/8/90	National Capacity Extension/ Minimum Technology Requirements	
		8/8/90 - Final	Treatment Standards - concentration levels	Final, unless standards revised
K052 Petroleum refining industry wastes	All	8/8/88 - 8/8/90	National Capacity Extension/ Minimum Technology Requirements	
		8/8/90 - Final	Treatment Standards - concentration levels	Final, unless standards revised
K060 Coking operations wastes	Nonwastewaters disposed of after August 17, 1988	5/2/89	Treatment Standards - no land disposal	Final, unless standards revised
	Nonwastewater generated from treatment of wastewater or originally disposed of before August 17, 1988	5/2/89	To be determined	Will be restricted in Third Third rule
	Nonwastewaters (all)	*8/8/88 - 5/2/89	Treatment Standards - no land disposal	
	Wastewaters	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K061 Electric furnace steel production wastes	Nonwastewaters - high zinc (≥ 15 percent total zinc)	8/8/88 - 8/8/90	Interim Treatment Standards - concentration levels	Until Aug. 8, 1990
		8/8/90 - Final	Treatment Standards - no land disposal	Final, unless standards revised
	Nonwastewaters - low zinc (< 15 percent total zinc)	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Wastewaters	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).15

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K062 Steel finishing spent pickle liquor	All	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
K069 Secondary lead smelting wastes	Nonwastewaters with calcium sulfate	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Nonwastewaters without calcium sulfate disposed of after August 17, 1988	5/2/89	Treatment Standards - no land disposal	Final, unless standards revised
	Nonwastewater generated from treatment of wastewater or originally disposed of before August 17, 1988	5/2/89	To be determined	Will be restricted in Third Third rule
	Nonwastewaters without calcium sulfate (all)	*8/8/88 - 5/2/89	Treatment Standards - no land disposal	
	Wastewaters	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K071 Chlorine production wastes	All	8/8/88	National Capacity Extension/Minimum Technology Requirements	Extension expires Aug. 8, 1990.
		8/8/90	Treatment Standards - concentration levels	Final, unless standards revised
K073 Chlorine production wastes	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).16

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K083 Aniline production wastes	Nonwastewaters - no ash (<0.01 percent total ash)	5/8/90	To be determined	Will be restricted in Third Third rule
		*8/8/88 - 5/2/89	Treatment Standards - no land disposal	
	Nonwastewaters with detectable ash and wastewaters	5/8/90	To be determined	Will be restricted in Third Third rule
		*8/8/88 - 5/2/89	Soft hammer provisions ⁵	
	Soil and debris	5/8/90	To be determined	Will be restricted in Third Third rule
		*8/8/88 - 5/2/89	National Capacity Extension/Minimum Technology Requirements	
K084 Veterinary pharmaceuticals production wastes	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K085 Chlorobenzene production wastes	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K086 Ink production wastes	Solvent washes, non-soil and debris	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Solvent washes, soil and debris	8/8/88	National Capacity Extension/ Minimum Technology Requirements	Extension expires Aug. 8, 1990
	Solvent sludges and caustic water and sludge	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K087 Coking operations wastes	All, except as noted below	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	8/8/88	National Capacity Extension/Minimum Technology Requirements	Extension expires Aug. 8, 1990

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).17

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K093 Phthalic anhydride production wastes	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K094 Phthalic anhydride production wastes	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/ Minimum Technology Requirements	Extension expires June 8, 1991
K095 1,1,1-trichloro- ethane production wastes	Nonwastewaters	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Wastewaters	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K096 1,1,1 trichloro- ethane production wastes	Nonwastewaters	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Wastewaters	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K097 Chlordane production wastes	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K098 Toxaphene production wastes	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K099 2,4-D production wastes	All	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).18

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K100 Secondary lead smelting wastes	Nonwastewaters disposed of after August 17, 1988	5/2/89	Treatment Standards - no land disposal	Final, unless standards revised
	Nonwastewater generated from treatment of wastewater or originally disposed of before August 17, 1988	5/2/89	To be determined	Will be restricted in the Third Third rule
	Nonwastewaters (all)	*8/8/88 - 5/2/89	Treatment Standards - no land disposal	
	Wastewaters	5/8/90	To be determined	Will be restricted in the Third Third rule
K101 Veterinary pharmaceuticals production wastes	Nonwastewaters with high arsenic (\geq 1 percent total arsenic)	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Nonwastewaters (except for soil and debris) with low arsenic (< 1 percent total arsenic)	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Wastewaters	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris with low arsenic (< 1 percent total arsenic)	8/8/88	National Capacity Extension/Minimum Technology Requirements	Extension expires Aug. 8, 1990

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a)-19

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K102 Veterinary pharmaceuticals production wastes	Nonwastewaters with high arsenic (\geq 1 percent total arsenic)	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Nonwastewaters (except for soil and debris) with low arsenic ($<$ 1 percent total arsenic)	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Wastewaters	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris with low arsenic ($<$ 1 percent total arsenic)	8/8/88	National Capacity Extension/Minimum Technology Requirements	Extension expires Aug. 8, 1990
K103 Aniline production wastes	All, except as noted	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	8/8/88	National Capacity Extension/Minimum Technology Requirements	Extension expires Aug. 8, 1990
K104 Nitrobenzene/ aniline production wastes	All, except as noted	8/8/88	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	8/8/88	National Capacity Extension/Minimum Technology Requirements	Extension expires Aug. 8, 1990
K105 Chlorobenzene production wastes	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K106 Chlorine production wastes	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
K111 ⁷ Dinitrotoluene production wastes		To be determined	N/A	HSWA requires EPA to set standards within six months of listing, but no hammers apply
K112 ⁷ Toluenediamine production wastes		To be determined	N/A	HSWA requires EPA to set standards within six months of listing, but no hammers apply

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a)-20

Waste Code ^{L2}	Type ^{3,4,5}	Dates Restricted	Type of Restriction	Comments
K113 ⁷ Toluenediamine production wastes	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K114 ⁷ Toluenediamine production wastes	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K115 ⁷ Toluenediamine production wastes	All, except as noted below	6/8/89	Treatment Standards - specified technology and concentration levels for treatment residues	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K116 ⁷ Toluene production wastes	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
K117 ⁸ Ethylene dibromide	All	To be determined	NA	HSWA requires EPA to set standards within six months of listing, but no hammers apply
K118 ⁸ Ethylene dibromide	All	To be determined	NA	HSWA requires EPA to set standards within six months of listing, but no hammers apply
K123 ⁹ ERDC	All	To be determined	NA	HSWA requires EPA to set standards within six months of listing, but no hammers apply
K124 ⁹ ERDC	All	To be determined	NA	HSWA requires EPA to set standards within six months of listing, but no hammers apply
K125 ⁹ ERDC	All	To be determined	NA	HSWA requires EPA to set standards within six months of listing, but no hammers apply

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a)-21

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
K126 ⁹ ERDC	All	To be determined	NA	HSWA requires EPA to set standards within six months of listing, but no hammers apply
K136 ⁸ Ethylene dibromide	All	To be determined	NA	HSWA requires EPA to set standards within six months of listing, but no hammers apply
P001 Warfarin, > 0.3 percent	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P002 1-Acetyl-2-thiourea	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P003 Acrolein	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P004 Aldrin	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P005 Allyl alcohol	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P006 Aluminum phosphide		5/8/90	To be determined	Will be restricted in the Third Third rule
P007 5-(Aminoethyl)-3-isoxazolol	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P008 4-Aminopyridine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P009 Ammonium picrate		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).22

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
P010 Arsenic acid	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P011 Arsenic (V) oxide	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P012 Arsenic (III) oxide	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P013 Barium cyanide	All	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
P014 Thiophenol	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P015 Beryllium dust	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P016 Bis-(chloro-methyl) ether	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P017 Bromoacetone		5/8/90	To be determined	Will be restricted in the Third Third rule
P018 Brucine	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P020 Dinoseb	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P021 Calcium cyanide	All	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
P022 Carbon disulfide		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).23

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
P023 Chloroacetaldehyde		5/8/90	To be determined	Will be restricted in the Third Third rule
P024 p-Chloroaniline		5/8/90	To be determined	Will be restricted in the Third Third rule
P026 1-(o-Chlorophenyl) thiourea	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P027 Propanenitrile, 3-chloro	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P028 Benzyl chloride		5/8/90	To be determined	Will be restricted in the Third Third rule
P029 Copper cyanides	All	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
P030 Soluble cyanide salts (NOS)	All	6/8/89 *8/8/88 - 6/8/89	Treatment Standards - concentration levels Soft hammer provisions ⁵	Final, unless standards revised
P031 Cyanogen		5/8/90	To be determined	Will be restricted in the Third Third rule
P033 Cyanogen chloride		5/8/90	To be determined	Will be restricted in the Third Third rule
P034 4,6-Dinitro-o-cyclohexylphenol		5/8/90	To be determined	Will be restricted in the Third Third rule
P036 Dichlorophenylarsine	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P037 Dieldrin	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).24

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
P038 Diethylarsine		5/8/90	To be determined	Will be restricted in the Third Third rule
P039 Disulfoton	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
P040 O,O-Diethyl o- pyrazinyl phosphorothioate	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
P041 Diethyl-p-nitro- phenyl phosphate	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
P042 Epinephrine		5/8/90	To be determined	Will be restricted in the Third Third rule
P043 Diisopropyl fluorophosphate	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
P044 Dimethoate	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
P045 Thiofanox		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).25

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
P046 Alpha, alpha-Dimethylphenethyl-amine		5/8/90	To be determined	Will be restricted in the Third Third rule
P047 4,6-Dinitro-o-cresol and salts		5/8/90	To be determined	Will be restricted in the Third Third rule
P048 2,4 Dinitrophenol	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P049 2,4-Dithiobiuret	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P050 Endosulfan	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P051 Endrin		5/8/90	To be determined	Will be restricted in the Third Third rule
P054 Aziridine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P056 Fluorine		5/8/90	To be determined	Will be restricted in the Third Third rule
P057 Fluoracetamide	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P058 Fluoroacetic acid sodium salt	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P059 Heptachlor	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).26

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
P060 Isodrin	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P062 Hexaethyltetra-phosphate	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
P063 Hydrogen cyanide	All	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	
P064 Methyl isocyanate		5/8/90	To be determined	Will be restricted in the Third Third rule
P065 Mercury fulminate		5/8/90	To be determined	Will be restricted in the Third Third rule
P066 Methomyl	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P067 2-Methylaziridine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P068 Methyl Hydrazine	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P069 Methyl lactoni-trile	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P070 Aldicarb	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).27

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
P071 Methyl parathion	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
P072 ANTU	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P073 Nickel Carbonyl		5/8/90	To be determined	Will be restricted in the Third Third rule
P074 Nickel Cyanide	All	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
P075 Nicotine and salts		5/8/90	To be determined	Will be restricted in the Third Third rule
P076 Nitric oxide		5/8/90	To be determined	Will be restricted in the Third Third rule
P077 p-Nitroaniline		5/8/90	To be determined	Will be restricted in the Third Third rule
P078 Nitrogen dioxide		5/8/90	To be determined	Will be restricted in the Third Third rule
P081 Nitroglycerine	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P082 N-Nitrosodi- methylamine	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P084 N-Nitrosomethyl- vinylamine	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).28

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
P085 Octamethylpyro- phosphoramidate	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
P087 Osmium Tetraoxide	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P088 Endothall		5/8/90	To be determined	Will be restricted in the Third Third rule
P089 Parathion	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
P092 Phenylmercuric acetate	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P093 N-Phenylthiourea		5/8/90	To be determined	Will be restricted in the Third Third rule
P094 Phorate	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
P095 Phosgene		5/8/90	To be determined	Will be restricted in the Third Third rule
P096 Phosphine		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).29

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
P097 Famphur	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
P098 Potassium cyanide	All	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
P099 Potassium silver cyanide	All	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
P101 Propanenitrile		5/8/90	To be determined	Will be restricted in the Third Third rule
P102 Propargyl alcohol	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P103 Selenourea		5/8/90	To be determined	Will be restricted in the Third Third rule
P104 Silver cyanide	All	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
P105 Sodium azide	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P106 Sodium cyanide	All	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
P107 Strontium sulfide	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P108 Strychnine and salts	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).30

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
P109 Tetraethyldithio- pyrophosphate	All, except as noted below Soil and debris	6/8/89 6/8/89	Treatment Standards - specified technology National Capacity Extension/Minimum Technology Requirements	Final, unless standards revised Extension expires June 8, 1991
P110 Tetraethyl lead	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P111 Tetraethylpyro- phosphoramidate	All, except as noted below Soil and debris	6/8/89 6/8/89	Treatment Standards - specified technology National Capacity Extension/Minimum Technology Requirements	Final, unless standards revised Extension expires June 8, 1991
P112 Tetranitromethane	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P113 Thallic oxide	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P114 Thallium (I) selenite	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P115 Thallium (I) sulfate	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P116 Thiosemicarbazide		5/8/90	To be determined	Will be restricted in the Third Third rule
P118 Trichloromethane- thiol		5/8/90	To be determined	Will be restricted in the Third Third rule
P119 Ammonium vanadate		5/8/90	To be determined	Will be restricted in the Third Third rule
P120 Vanadium pentoxide	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).31

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
P121 Zinc cyanide	All	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
P122 Zinc phosphide, >10 percent	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
P123 Toxaphene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U001 Acetaldehyde		5/8/90	To be determined	Will be restricted in the Third Third rule
U002 Acetone	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U003 Acetonitrile	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U004 Acetophenone		5/8/90	To be determined	Will be restricted in the Third Third rule
U005 o-Acetyl amino- fluorene	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U006 Acetyl chloride		5/8/90	To be determined	Will be restricted in the Third Third rule
U007 Acrylamide	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U008 Acrylic acid	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U009 Acrylonitrile	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

*** September 1989 ***

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).32

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U010 Mitomycin C	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U011 Amitrole	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U012 Aniline	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U014 Auramine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U015 Azaserine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U016 Benz(c)acridine	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U017 Benzal chloride		5/8/90	To be determined	Will be restricted in the Third Third rule
U018 Benz(a)anthracene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U019 Benzene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U020 Benzenesulfonyl chloride	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U021 Benzidine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).33

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U022 Benzo(a)pyrene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U023 Benzotrichloride	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U024 Bis(2-chloro-ethoxy)methane		5/8/90	To be determined	Will be restricted in the Third Third rule
U025 Dichloroethyl ether	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U026 Chlornaphazine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U027 Bis(2-chloroisopropyl)ether		5/8/90	To be determined	Will be restricted in the Third Third rule
U028 Bis(2-ethylhexyl) phthalate	All, except as noted below Soil and debris	6/8/89 6/8/89	Treatment Standards - concentration levels National Capacity Extension/Minimum Technology Requirements	Final, unless standards revised Extension expires June 8, 1991
U029 Methyl bromide		8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U030 Benzene, 1-bromo-4-phenoxy		5/8/90	To be determined	Will be restricted in the Third Third rule
U031 n-Butanol	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a)-34

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U032 Calcium chromate	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U033 Carbonyl fluoride		5/8/90	To be determined	Will be restricted in the Third Third rule
U034 Chloral		5/8/90	To be determined	Will be restricted in the Third Third rule
U035 Chlorambucil	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U036 Chlordane, technical	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U037 Chlorobenzene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U038 Ethyl-4-4-di-chlorobenzilate		5/8/90	To be determined	Will be restricted in the Third Third rule
U039 4-Chloro-m-cresol		5/8/90	To be determined	Will be restricted in the Third Third rule
U041 n-Chloro-2,3-epoxypropene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U042 Vinyl ether 2-chloroethyl		5/8/90	To be determined	Will be restricted in the Third Third rule
U043 Vinyl chloride	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).35

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U044 Chloroform	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U045 Methyl chloride		5/8/90	To be determined	Will be restricted in the Third Third rule
U046 Chloromethyl methyl ether	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U047 Beta-chloro-naphthalene	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U048 o-Chlorophenol		5/8/90	To be determined	Will be restricted in the Third Third rule
U049 4-Chloro-o-toluidine, hydrochloride	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U050 Chrysene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U051 Creosote	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U052 Cresols		5/8/90	To be determined	Will be restricted in the Third Third rule
U053 Crotonaldehyde	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U055 Cumene		5/8/90	To be determined	Will be restricted in the Third Third rule
U056 Cyclohexane		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).36

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U057 Cyclohexanone	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U058 Cyclophosphamide	All, except as noted below	6/8/89	Treatment Standards - specified technology	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
U059 Daunomycin	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U060 DDD	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U061 DDT	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U062 Diallate	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U063 Dibenzo(a,h) anthracene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U064 1,2,7,8 Dibenzo- pyrene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U066 Dibromo-3-chloro- propene 1,2	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U067 Ethylene dibromide	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U068 Methane, dibromo		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a)-37

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U069 Dibutyl phthalate	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
U070 o-Dichlorobenzene	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U071 m-Dichlorobenzene		5/8/90	To be determined	Will be restricted in the Third Third rule
U072 p-Dichlorobenzene		5/8/90	To be determined	Will be restricted in the Third Third rule
U073 Dichlorobenzidene 3,3-	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U074 1,4-Dichloro-2- butene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U075 Dichlorodifluoro- methane		5/8/90	To be determined	Will be restricted in the Third Third rule
U076 Ethane, 1,1- dichloro-		5/8/90	To be determined	Will be restricted in the Third Third rule
U077 Ethane, 1,2- dichloro	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U078 Dichloroethylene, 1,1-	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U079 1,2-Dichloro- ethylene		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).38

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U080 Methylene chloride	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U081 2,4-Dichloro- phenol		5/8/90	To be determined	Will be restricted in the Third Third rule
U082 2,6-Dichloro- phenol		5/8/90	To be determined	Will be restricted in the Third Third rule
U083 Dichloropropane, 1,2-	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U084 1,3-Dichloro- propene		5/8/90	To be determined	Will be restricted in the Third Third rule
U085 2,2-Bioxirane		5/8/90	To be determined	Will be restricted in the Third Third rule
U086 N,N Diethylhydra- zine	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U087 O,O-Diethyl-S- methyl-dithio- phosphate	All, except as noted below Soil and debris	6/8/89 6/8/89	Treatment Standards - specified technology National Capacity Extension/Minimum Technology Requirements	Final, unless standards revised Extension expires June 8, 1991
U088 Diethyl phthalate	All, except as noted below Soil and debris	6/8/89 6/8/89	Treatment Standards - concentration levels National Capacity Extension/Minimum Technology Requirements	Final, unless standards revised Extension expires June 8, 1991
U089 Diethylstil- bestrol	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U090 Dihydrosafrole		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).39

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U091 3,3 Dimethoxyben- zidine		5/8/90	To be determined	Will be restricted in the Third Third rule
U092 Dimethylamine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U093 Dimethylaminoazo- benzene	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U094 Dimethylbenz(a) anthracene,7,12-	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U095 Dimethylbenzi- dine,3,3-	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U096 alpha,alpha- Dimethylbenzyl- hydroxyperoxide		5/8/90	To be determined	Will be restricted in the Third Third rule
U097 Dimethylcarbamoyl chloride	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U098 Dimethylhydrazine 1,1-	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U099 Dimethylhydrazine 1,2-	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U101 Dimethylphenol, 2,4-	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).40

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U102 Dimethyl phthalate	All, except as noted below Soil and debris	6/8/89 6/8/89	Treatment Standards - concentration levels National Capacity Extension/Minimum Technology Requirements	Final, unless standards revised Extension expires June 8, 1991
U103 Dimethyl sulfates	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U105 2,4-Dinitro- toluene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U106 Dinitrotoluene, 2,6-	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U107 Di-n-octyl phthalate	All, except as noted below Soil and debris	6/8/89 6/8/89	Treatment Standards - concentration levels National Capacity Extension/Minimum Technology Requirements	Final, unless standards revised Extension expires June 8, 1991
U108 Dioxane, 1,4-	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U109 1,2-Diphenyl- hydrazine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U110 Dipropylamine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U111 Di-N- Propylnitrosamine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U112 Ethyl acetate		5/8/90	To be determined	Will be restricted in the Third Third rule
U113 Ethyl acrylate		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).41

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U114 Ethylenebis- (dithiocarbamic acid)	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U115 Ethylene oxide	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U116 Ethylene thiourea	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U117 Ethyl ether		5/8/90	To be determined	Will be restricted in the Third Third rule
U118 Ethylmethacrylate		5/8/90	To be determined	Will be restricted in the Third Third rule
U119 Ethyl Methanesul- fonate	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U120 Fluoranthene		5/8/90	To be determined	Will be restricted in the Third Third rule
U121 Trichloromono- fluoromethane		5/8/90	To be determined	Will be restricted in the Third Third rule
U122 Formaldehyde	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U123 Formic acid		5/8/90	To be determined	Will be restricted in the Third Third rule
U124 Furan	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U125 Furfural	All	5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a)-42

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U126 Glycidylaldehyde		5/8/90	To be determined	Will be restricted in the Third Third rule
U127 Hexachloro- benzene	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U128 Hexachlorobuta- diene	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U129 Lindane	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U130 Hexachloro- cyclopentadiene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U131 Hexachloroethane	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U132 Hexachlorophene		5/8/90	To be determined	Will be restricted in the Third Third rule
U133 Hydrazine	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U134 Hydrofluoric acid	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U135 Hydrogen sulfide	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U136 Cacodylic acid		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).43

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U137 Indeno (1,2,3-cd) pyrene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U138 Methyl iodide	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U139 Iron dextran		5/8/90	To be determined	Will be restricted in the Third Third rule
U140 Isobutyl alcohol	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U141 Isosafrole		5/8/90	To be determined	Will be restricted in the Third Third rule
U142 Kepone	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U143 Lasiocarpine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U144 Lead acetate	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U145 Lead phosphate		5/8/90	To be determined	Will be restricted in the Third Third rule
U146 Lead subacetate	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U147 Maleic anhydride	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U148 Maleic hydrazide		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).44

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U149 Malononitrile	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U150 Melphalan	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U151 Mercury	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U152 Methacrylonitrile		5/8/90	To be determined	Will be restricted in the Third Third rule
U153 Methanethiol		5/8/90	To be determined	Will be restricted in the Third Third rule
U154 Methanol	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U155 Methapyrilene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U156 Methyl chlorocarbonate		5/8/90	To be determined	Will be restricted in the Third Third rule
U157 3-Methylchol-anthrene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U158 4,4-Methylene-bis-(2-chloro-aniline)	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U159 Methyl ethyl ketone	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).45

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U160 Methyl ethyl ketone peroxide		5/8/90	To be determined	Will be restricted in the Third Third rule
U161 Methyl isobutyl ketone	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U162 Methyl methacrylate	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U163 N-Methyl-N-nitro- N-nitrosoguani- dine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U164 Methylthiouracil	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U165 Naphthalene	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U166 1,4- Naphthaquinone		5/8/90	To be determined	Will be restricted in the Third Third rule
U167 1-Naphthylamine		5/8/90	To be determined	Will be restricted in the Third Third rule
U168 Naphthylamine, 2-	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U169 Nitrobenzene	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U170 p-Nitrophenol	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

*** September 1989 ***

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).46

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U171 Nitropropane, 2-	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U172 N-nitroso-di-n-butylamine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U173 N-nitroso-diethanolamine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U174 N-nitroso-diethylamine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U176 N-Nitroso-N-ethylurea	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U177 N-Nitroso-N-methylurea	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U178 N-Nitroso-N-methylurethane	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U179 N-Nitrosopiperidine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U180 N-Nitrosopyrrolidine	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U181 5-Nitro-o-toluidine		5/8/90	To be determined	Will be restricted in the Third Third rule
U182 Paraldehyde		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).47

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U183 Pentachloro- benzene		5/8/90	To be determined	Will be restricted in the Third Third rule
U184 Pentachloroethane		5/8/90	To be determined	Will be restricted in the Third Third rule
U185 Pentachloronitro- benzene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U186 1,3-Pentadiene		5/8/90	To be determined	Will be restricted in the Third Third rule
U187 Phenacetin		5/8/90	To be determined	Will be restricted in the Third Third rule
U188 Phenol	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U189 Phosphorus sulfide	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U190 Phthalic anhydride	All, except as noted below Soil and debris	6/8/89 6/8/89	Treatment Standards - concentration levels National Capacity Level/Minimum Technology Requirements	Final, unless standards revised Extension expires June 8, 1991
U191 2-Picoline		5/8/90	To be determined	Will be restricted in the Third Third rule
U192 Pronamide	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U193 1,3-Propane sultone	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U194 1-Propanamine		5/8/90	To be determined	Will be restricted in the Third Third rule

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).48

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U196 Pyridine	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U197 p-Benzoquinone		5/8/90	To be determined	Will be restricted in the Third Third rule
U200 Reserpine	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U201 Resorcinol		5/8/90	To be determined	Will be restricted in the Third Third rule
U202 Saccharin & salts		5/8/90	To be determined	Will be restricted in the Third Third rule
U203 Safrole	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U204 Selenious acid		5/8/90	To be determined	Will be restricted in the Third Third rule
U205 Selenium disulfide	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U206 Streptozotocin	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U207 1,2,4,5-tetra- chlorobenzene		5/8/90	To be determined	Will be restricted in the Third Third rule
U208 Tetrachloroethane, 1,1,1,2-	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U209 Tetrachloro- ethane, 1,1,2,2-	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).49

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U210 Tetrachloro- ethylene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U211 Carbon tetrachloride	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U213 Tetrahydrofuran	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U214 Thallium (I) acetate chloride nitrate	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U215 Thallium (I) carbonate	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U216 Thallium (I) chloride	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U217 Thallium (I) nitrate	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U218 Thioacetamide	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U219 Thiourea	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U220 Toluene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).50

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U221 Toluenediamine	All, except as noted below	6/8/89	Treatment Standards - specific technology	Final, unless standards revised
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
U222 o-Toluidine hydrochloride		5/8/90	To be determined	Will be restricted in the Third Third rule
U223 Toluene diisocyanate	All, except as noted below	6/8/89	Treatment Standards - specific technology	Final, unless standards revised
		*8/8/88 - 6/8/89	Soft hammer provisions ⁵	
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991
U225 Bromotorm		5/8/90	To be determined	Will be restricted in the Third Third rule
U226 Methylchloroform	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U227 Trichloroethane, 1,1,2-	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U228 Trichloroethylene	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U234 Sym-Trinitro- benzene		5/8/90	To be determined	Will be restricted in the Third Third rule
U235 Tris (2,3- Dibromopropyl) phosphate	All, except as noted below	6/8/89	Treatment Standards - concentration levels	Final, unless standards revised
	Soil and debris	6/8/89	National Capacity Extension/Minimum Technology Requirements	Extension expires June 8, 1991

* Restriction in effect only for period noted.

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APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a).51

Waste Code ^{1,2}	Type ^{3,4,6}	Dates Restricted	Type of Restriction	Comments
U236 Trypan blue		5/8/90	To be determined	Will be restricted in the Third Third rule
U237 Uracil mustard	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U238 Ethyl carbamate	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U239 Xylene	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U240 2,4-D salts & esters		5/8/90	To be determined	Will be restricted in the Third Third rule
U243 Hexachloropropene		5/8/90	To be determined	Will be restricted in the Third Third rule
U244 Thiram	All	6/8/89	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U246 Cyanogen bromide		5/8/90	To be determined	Will be restricted in the Third Third rule
U247 Methoxychlor		8/8/90	To be determined	Will be restricted in the Third Third rule
U248 Warfarin, <0.3 percent	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls
U249 Zinc phosphide, <10 percent	All	8/8/88	Soft hammer provisions ⁵	Effective until EPA sets treatment standards or May 8, 1990, when the hard hammer falls

* Restriction in effect only for period noted.

APPENDIX A-1 (a) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(a) 52

ENDNOTES

1. Appendices A-2 (F001-F005, F020-F023, and F026-F028) and A-4 (First and Second Third wastes) provide complete waste code descriptions and, where appropriate, complete explanation of treatment standards and BDAT.
2. If a Superfund site contains a RCRA listed or characteristic hazardous waste, the site manager should also determine whether the wastes is a California list waste. The restrictions on California list wastes are summarized in Appendix A-1(b).
3. EPA considers "wastewaters" to be wastes containing less than one percent total organic carbon (TOC) and less than one percent total filterable solids. All other substances are "nonwastewaters."
4. Soil and debris wastes are subject to restrictions listed under the category "nonwastewaters", except where noted otherwise.
5. Under the soft hammer provisions, wastes may be land disposed in a landfill or surface impoundment only if: (1) the disposal unit meets RCRA minimum technology requirements; and (2) the generator investigates treatment options and, when treatment is practically available, uses the best treatment. Wastes may be disposed in waste piles or land treatment units without restriction (except soft hammer notification requirements).
6. This table does not reflect that the following will be restricted in the Third Third rule:
 - Wastewater residues (less than 1% total organic carbon and less than 1% total suspended solids) resulting from the following well-designed and well-operated treatment methods for wastes listed in sections 268.10 and 268.11 for which EPA has not promulgated wastewater treatment standards; metals recovery, metals precipitation, cyanide destruction, carbon adsorption, chemical oxidation, steam stripping, biodegradation and incineration or other direct thermal destruction. (268.12 (b))
 - Hazardous wastes listed in sections 268.10 and 268.11 that are mixed hazardous/radioactive wastes (268.12(b))
 - Multi-source leachate that is derived from Hazardous Wastes F020, F021, F022, F023, F026, F027, or F028 (268.12(b))
7. This waste was newly listed on October 23, 1985. EPA is required to set LDR treatment standards for these wastes within 6 months of the date of listing, but no hammer provisions apply.
8. This waste was newly listed on February 13, 1986. EPA is required to set LDR treatment standards for these wastes within 6 months of the date of listing, but no hammer provisions apply.
9. This waste was newly listed on October 24, 1986. EPA is required to set LDR treatment standards for these wastes within 6 months of the date of listing, but no hammer provisions apply.

APPENDIX A-1 (b)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA CALIFORNIA LIST WASTES

A-1(b).1

Waste Code ¹	Type ^{2,3}	Dates Restricted	Type of Restriction	Comments
California List wastes	Liquid RCRA hazardous waste containing free <u>Cyanides</u> in concentrations greater than 1000 mg/l	7/8/87	None - hard hammer restrictions apply	
	Liquid RCRA hazardous waste containing <u>metals</u> in concentrations greater than: 500 mg/l for arsenic, 100 mg/l for lead, 500 mg/l for chromium VI, 500 mg/l for lead, 20 mg/l for mercury, 134 mg/l for nickel, 100 mg/l for selenium, and 130 mg/l for thallium	7/8/87	None - hard hammer restrictions apply	
	Liquid RCRA hazardous waste that is a <u>corrosive waste</u> with a pH less than or equal to 2.0	7/8/87	None - Codified prohibition levels	
	Liquid RCRA hazardous waste containing <u>PCBs</u> in concentrations greater than or equal to 50 ppm	7/8/87	Treatment standard - specified technology	
	RCRA hazardous waste containing <u>halogenated organic compounds (HOCs)</u> ⁴ that are: Dilute wastewaters greater than or equal to 1000 mg/l but less than 10,000 mg/l	7/8/87	Codified prohibition levels	
	Liquid hazardous wastes and non-liquids greater than or equal to 1000 mg/kg	8/8/88	Treatment standard - specified technology	

APPENDIX A-1 (b) (continued)

TYPE OF LDR RESTRICTION IN EFFECT FOR EACH RCRA HAZARDOUS WASTE CODE

A-1(b).2

Waste Code ^{1,2}	Type ^{3,4}	Dates Restricted	Type of Restriction	Comments
	RCRA/CERCLA soil and debris greater than or equal to 1000 mg/kg	11/8/88 - 11/8/90	National capacity extension in effect until November 8, 1990	
		11/8/90	Final - Codified prohibition levels	
	RCRA hazardous waste containing <u>halogenated organic compounds (HOCs)</u> ⁴ that are:			
	Non-RCRA/CERCLA soil and debris greater than or equal to 1000 mg/kg	7/8/87 - 7/8/89	Minimum Technology Requirements	National capacity extension in effect until July 8, 1989
		7/8/89	Treatment standard - specified technology	

1. Appendix A-2 provides complete waste code descriptions and, where appropriate, complete explanation of treatment standards and BDAT.
2. EPA considers "wastewaters" to be wastes containing less than one percent total organic carbon (TOC) and less than one percent total filterable solids. All other substances are "nonwastewaters."
3. Soil and debris wastes are subject to restrictions listed under the category "nonwastewaters", except where noted otherwise.
4. See Appendix III to 40 CFR Part 268 for a list of HOCs used to calculate whether a waste contains greater than 1,000 mg/kg of HOCs.

APPENDIX A-4

**TREATMENT STANDARDS AND EFFECTIVE DATES FOR
FIRST AND SECOND THIRD WASTES**

AUGUST 1989

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.1

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	<u>Nonwastewaters</u>			Alkaline chlorination for amenable and total cyanides; stabilization of metals.	August 8, 1988; Standard for cyanide effective July 8, 1989
		Cyanide (Total)	590	NA ²		
		Cyanide (Amenable)	30	NA		
		Cadmium (Total)	NA	0.066		
		Chromium (Total)	NA	5.2		
		Lead	NA	0.51		
		Nickel	NA	0.32		
		Silver	NA	0.072		
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated.				
		Soft hammer provisions apply.				
F007	Spent cyanide plating solutions from electroplating operations.	<u>Nonwastewaters</u>			Alkaline chlorination for amenable and total cyanides; precipitation, settling, filtration and stabilization of metals.	July 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Cyanides (Total)	590	NA		
		Cyanides (Amenable)	30	NA		
		Cadmium	NA	0.066		
		Chromium (Total)	NA	5.2		
		Lead	NA	0.51		
		Nickel	NA	0.32		
		Silver	NA	0.072		
		<u>Wastewaters</u>			Alkaline chlorination for amenable and total cyanides; precipitation, settling, filtration and sludge dewatering for metals.	July 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Cyanides (Total)	1.9	NA		
		Cyanides (Amenable)	0.10	NA		
		Chromium (Total)	0.32	NA		
		Lead	0.04	NA		
Nickel	0.44	NA				

APPENDIX A-4

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.2

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
F008	Plating bath sludges from bottom of plating bath from electroplating operations where cyanides are used in the process.	<u>Nonwastewaters</u>			Alkaline chlorination for amenable and total cyanides; precipitation, settling, filtration, and stabilization for metals.	July 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Cyanides (Total)	590	NA		
		Cyanides (Amenable)	30	NA		
		Cadmium	NA	0.066		
		Chromium (Total)	NA	5.2		
		Lead	NA	0.51		
		Nickel	NA	0.32		
		Silver	NA	0.072		
		<u>Wastewaters</u>				
		Cyanides (Total)	1.9	NA		
		Cyanides (Amenable)	0.10	NA		
		Chromium (Total)	0.32	NA		
		Lead	0.04	NA		
		Nickel	0.44	NA		
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used.	<u>Nonwastewaters</u>			Alkaline chlorination, for amenable and total cyanides; precipitation, settling, filtration, and stabilization for metals.	July 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Cyanides (Total)	590	NA		
		Cyanides (Amenable)	30	NA		
		Cadmium	NA	0.066		
		Chromium (Total)	NA	5.2		
		Lead	NA	0.51		
		Nickel	NA	0.32		
		Silver	NA	0.072		
		<u>Wastewaters</u>				
		Cyanides (Total)	1.9	NA		
		Cyanides (Amenable)	0.10	NA		
		Chromium (Total)	0.32	NA		
		Lead	0.04	NA		
		Nickel	0.44	NA		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.3

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		Cyanides (Total)	1.5	NA		
		<u>Wastewaters</u>			Alkaline chlorination for amenable and total cyanides; precipitation, settling, filtration, and sludge dewatering for metals.	June 8, 1989
		Cyanides (Total)	1.9	NA		
		Cyanides (Amenable)	0.10	NA		
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	<u>Nonwastewaters</u>			Electrolytic oxidation followed by alkaline chlorination for amenable and total cyanides; precipitation, settling, stabilization of metals.	July 8, 1989
		Cyanides (Total)	110*	NA		
		Cyanides (Amenable)	9.1*			
		Cadmium	NA	0.066		
		Chromium (Total)	NA	5.2		
		Lead	NA	0.51		
		Nickel	NA	0.32		
		Silver	NA	0.072		
		<u>Wastewaters</u>			Alkaline chlorination for amenable and total cyanides; precipitation, settling, filtration, and sludge dewatering for metals.	July 8, 1989
		Cyanides (Total)	1.9	NA		
		Cyanides (Amenable)	0.10	NA		
		Chromium (Total)	0.32	NA		
		Lead	0.04	NA		
		Nickel	0.44	NA		
F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.	<u>Nonwastewaters</u>			Electrolytic oxidation followed by alkaline chlorination for amenable and total cyanides; precipitation, settling, stabilization of metals.	July 8, 1989
		Cyanides (Total)	110*	NA		
		Cyanides (Amenable)	9.1*	NA		
		Cadmium	NA	0.066		
		Chromium (Total)	NA	5.2		
		Lead	NA	0.51		
		Nickel	NA	0.32		
		Silver	NA	0.072		

* From July 8, 1989 through December 8, 1989, must meet cyanide standards for F007-F009 (i.e. 590 mg/kg for total cyanides and 30 mg/kg for amenable cyanides)

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.4

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
F012	(continued)	<u>Wastewaters</u>			Alkaline chlorination for amenable and total cyanides; precipitation, settling, filtration, and sludge dewatering for metals.	July 8, 1989
		Cyanides (Total)	1.9	NA		
		Cyanide (Amenable)	0.10	NA		
		Chromium (Total)	0.32	NA		
		Lead	0.04	NA		
		Nickel	0.44	NA		
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum.	<u>Nonwastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.5

Waste Code	Description	Treatment Standards			Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
		Constituent	Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
F024	Wastes, including, but not limited to, distillation residues, heavy ends, tars, and reactor cleanout wastes from the production of chlorinated aliphatic hydrocarbons, having carbon content from one to five, utilizing free radical catalyzed processes. (This list does not include light ends, spent filters and filter aids, spent desiccants, wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in §261.32).	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		Chromium (Total)	NA	Reserved		
		Nickel (Total)	NA	Reserved		
		2-Chloro-1,3-butadiene	0.28	NA		
		3-Chloropropene	0.28	NA		
		1,1-Dichloroethane	0.014	NA		
		1,2-Dichloroethane	0.014	NA		
		1,2-Dichloropropane	0.014	NA		
		cis-1,3-Dichloropropene	0.014	NA		
		trans-1,3-Dichloropropene	0.014	NA		
		Bis(2-ethylhexyl) phthalate	1.8	NA		
		Hexachlorethane	1.8	NA		
		Hexachlorodibenzo-furans	0.001	NA		
		Hexachlorodibenzo-p-dioxins	0.001	NA		
		Pentachlorodibenzo-furans	0.001	NA		
		Pentachlorodibenzo-p-dioxins	0.001	NA		
		Tetrachlorodibenzo-furans	0.001	NA		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.6

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
F024	(continued)	<u>Wastewaters</u>			Incineration.	June 8, 1989
		Chromium (Total)	0.35	NA		
		Nickel (Total)	0.47	NA		
		2-Chloro-1,3				
		-butadiene	0.28	NA		
		3-Chloropropene	0.28	NA		
		1,1-Dichloroethane	0.014	NA		
		1,2-Dichloroethane	0.014	NA		
		1,2-Dichloropropane	0.014	NA		
		cis-1,3-				
		Dichloropropene	0.014	NA		
		trans-1,3-				
		Dichloropropene	0.014	NA		
		Bis(2-ethylhexyl)				
		phthalate	0.036	NA		
		Hexachloroethane	0.036	NA		
		Hexachlorodibenzo-				
		furans	0.001	NA		
		Hexachlorodibenzo-				
		p-dioxins	0.001	NA		
		Pentachlorodibenzo-				
		furans	0.001	NA		
		Pentachlorodibenzo-				
		p-dioxins	0.001	NA		
		Tetrachlorodibenzo-				
		furans	0.001	NA		

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.7

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration			
			for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	<u>Nonwastewaters</u>			Rotary kiln incineration followed by stabilization.	August 8, 1988
		Naphthalene	8.0	NA		
		Pentachlorophenol	37	NA		
		Phenanthrene	8.0	NA		
		Pyrene	7.3	NA		
		Toluene	0.14	NA		
		Xylenes	0.16	NA		
		Lead	NA	0.51		
		<u>Wastewaters</u>			Chemical precipitation of scrubber water from rotary kiln incineration.	August 8, 1988
		Naphthalene	0.15	NA		
		Pentachlorophenol	0.88	NA		
		Phenanthrene	0.15	NA		
		Pyrene	0.14	NA		
		Toluene	0.14	NA		
		Xylenes	0.16	NA		
		Lead	0.037	NA		
K004	Wastewater treatment sludge from the production of zinc yellow pigments.	<u>Nonwastewaters</u>			--	June 8, 1989 (No land disposal based on no generation from August 8, 1988 through June 8, 1989)
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Nonwastewaters Disposed of After June 8, 1989 Generated From Listing Description.</u>			--	June 8, 1989 (3rd third waste moved to 2nd third)
		No land disposal based on no generation.				
K005	Wastewater treatment sludge from the production of chrome green pigments.	<u>Nonwastewaters Originally Disposed of Before June 8, 1989</u>			--	
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.8

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K005	(Continued)	<u>Wastewaters</u>			--	June 8, 1989 (3rd third waste moved to 2nd third)
		No BDAT treatment standards promulgated. Soft hammer provisions do not apply.				
K007	Wastewater treatment sludge from the production of iron blue pigments.	<u>Nonwastewaters Disposed of After June 8, 1989 Generated From Listing Description</u>			--	June 8, 1989 (3rd third waste moved to 2nd third)
		No land disposal based on no generation.				
		<u>Nonwastewaters Originally Disposed of Before June 8, 1989</u>			--	
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	June 8, 1989 (3rd third moved to 2nd third waste)
		No BDAT treatment standards promulgated. Soft hammer provisions do not apply.				
K008	Oven residue from the production of chrome oxide green pigments.	<u>Nonwastewaters</u>			--	June 8, 1989 (No land disposal based on no generation from August 8, 1988 through June 8, 1989)
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K009	Distillation bottoms from the production of acetaldehyde from ethylene.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		Chloroform	6.0	NA		
		<u>Wastewaters</u>			Steam stripping followed by biological treatment.	June 8, 1989
		Chloroform	0.10	NA		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.9

Waste Code	Description	Treatment Standards			Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
		Constituent	Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K010	Distillation side cuts from the production of acetaldehyde from ethylene.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		Chloroform	6.0	NA		
		<u>Wastewaters</u>			Steam stripping followed by biological treatment.	June 8, 1989
		Chloroform	0.10	NA		
K011	Bottom stream from wastewater stripper in the production of acrylonitrile.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Acetonitrile	1.8	NA		
		Acrylonitrile	1.4	NA		
		Acrylamide	23	NA		
		Benzene	0.03	NA		
		Cyanides (Total)	57	NA		
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K013	Bottom stream from acetonitrile column in the production of acrylonitrile.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Acetonitrile	1.8	NA		
		Acrylonitrile	1.4	NA		
		Acrylamide	23	NA		
		Benzene	0.03	NA		
		Cyanides (Total)	57	NA		
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K014	Bottoms from acetonitrile purification column in the production of acrylonitrile.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Acetonitrile	1.8	NA		
		Acrylonitrile	1.4	NA		
		Acrylamide	23	NA		
		Benzene	0.03	NA		
		Cyanides (Total)	57	NA		

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.10

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K014	(Continued)	<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K015	Still bottoms from the distillation of benzyl chloride.	<u>Nonwastewaters</u>			--	June 8, 1989 (No land disposal based on no ash from August 8, 1988 through June 8, 1989)
		<u>Wastewaters</u>			Chemical precipitation of scrubber water from liquid injection incineration.	August 8, 1988
		Anthracene	1.0	NA		
		Benzal chloride	0.28	NA		
		Benzo(b and/or k) fluoranthene	0.29	NA		
		Phenanthrene	0.27	NA		
		Toluene	0.15	NA		
		Total chromium	0.32	NA		
		Nickel	0.44	NA		
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.	<u>Nonwastewaters</u>			Rotary kiln incineration.	August 8, 1988
		Hexachlorobenzene	28	NA		
		Hexachlorobutadiene	5.6	NA		
		Hexachlorocyclopentadiene	5.6	NA		
		Hexachloroethane	28	NA		
		Tetrachloroethene	6.0	NA		
		<u>Wastewaters</u>			Concentrations in scrubber water from rotary kiln incineration.	August 8, 1988
		Hexachlorobenzene	0.033	NA		
		Hexachlorobutadiene	0.007	NA		
		Hexachlorocyclopentadiene	0.007	NA		
		Hexachloroethane	0.033	NA		
		Tetrachloroethene	0.007	NA		

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.11

Waste Code	Description	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
		Constituent	Maximum Concentration		
			for Any Single Grab Sample Total (mg/kg TCLP (mg/l) or mg/l)		
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	<u>Nonwastewaters</u>		--	August 8, 1988
		No BDAI treatment standards promulgated. Soft hammer provisions apply.			
		<u>Wastewaters</u>		--	August 8, 1988
		No BDAI treatment standards promulgated. Soft hammer provisions apply.			
K018	Heavy ends from the fractionation column in ethyl chloride production.	<u>Nonwastewaters</u>		Rotary kiln incineration.	August 8, 1988
		Chloroethane	6.0	NA	
		1,1-Dichloroethane	6.0	NA	
		1,2-Dichloroethane	6.0	NA	
		Hexachlorobenzene	28	NA	
		Hexachlorobutadiene	5.6	NA	
		Hexachloroethane	28	NA	
		Pentachloroethane	5.6	NA	
		1,1,1-Trichloroethane	6.0	NA	
		<u>Wastewaters</u>		Concentrations in scrubber water from rotary kiln incineration.	August 8, 1988
		Chloroethane	0.007	NA	
		Chloromethane	0.007	NA	
		1,1-Dichloroethane	0.007	NA	
		1,2-Dichloroethane	0.007	NA	
		Hexachlorobenzene	0.033	NA	
		Hexachlorobutadiene	0.007	NA	
		Pentachloroethane	0.007	NA	
		1,1,1-Trichloroethane	0.007	NA	

APPENDIX A-4

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.12

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹					
			Maximum Concentration for Any Single Grab Sample								
			Total (mg/kg or mg/l)	TCLP (mg/l)							
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	<u>Nonwastewaters</u>			Rotary kiln incineration.	August 8, 1988					
		Bis(2-chloroethyl)									
		ether	5.6	NA							
		Chlorobenzene	6.0	NA							
		Chloroform	6.0	NA							
		1,2-Dichloroethane	6.0	NA							
		Hexachloroethane	28	NA							
		Napthalene	5.6	NA							
		Phenanthrene	5.6	NA							
		Tetrachloroethene	6.0	NA							
		1,2,4-Trichloro-benzene	19	NA							
		1,1,1-Trichloro-ethane	6.0	NA							
		<u>Wastewaters</u>			Concentrations in scrubber water from rotary kiln incineration.	August 8, 1988					
		Bis(2-chloroethyl)									
		ether	0.007	NA							
		Chlorobenzene	0.006	NA							
		Chloroform	0.007	NA							
		p-Dichlorobenzene	0.008	NA							
		1,2-Dichloroethane	0.007	NA							
		Fluorene	0.007	NA							
		Hexachloroethane	0.033	NA							
		Napthalene	0.007	NA							
		Phenanthrene	0.007	NA							
		1,2,4,5-Tetrachloro-benzene	0.017	NA							
		Tetrachloroethene	0.007	NA							
		1,2,4-Trichloro-benzene	0.023	NA							
		1,1,1-Trichloro-ethane	0.007	NA							
		K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride production.	<u>Nonwastewaters</u>				Rotary kiln incineration.	August 8, 1988		
				1,2-Dichloroethane			6.0			NA	
				1,1,2,2-Tetra-chloroethane			5.6			NA	
				Tetrachloroethene	6.0	NA					

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.13

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K020	(Continued)	<u>Wastewaters</u>			Concentrations in scrubber water from rotary kiln incineration.	August 8, 1988
		1,2-Dichloroethane	0.007	NA		
		1,1,2,2-Tetrachloroethane	0.007	NA		
		Tetrachloroethene	0.007	NA		
K021	Aqueous spent antimony catalyst waste from fluoromethanes production.	<u>Nonwastewaters Disposed of After August 17, 1988</u>			--	August 8, 1988
		<u>Generated From Listing Description</u>				
		No land disposal based on no generation.				
		<u>Nonwastewaters Originally Disposed of Before August 17, 1988</u>			--	
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K022	Distillation bottom tars from the production of phenol/acetone from cumene.	<u>Nonwastewaters</u>			Fuel substitution followed by metals stabilization.	August 8, 1988
		Acetophenone	19	NA		
		Sum of Diphenylamine & Diphenylnitrosamine	13	NA		
		Phenol	12	NA		
		Toluene	0.034	NA		
		Chromium (Total)	NA	5.2		
		Nickel	NA	0.32		
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	<u>Nonwastewaters</u>			Rotary kiln incineration.	June 8, 1989 (3rd third waste moved to 2nd third)
		Phthalic acid (Phthalic anhydride)	28	NA		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.14

Waste Code	Description	Constituent	Treatment Standards Maximum Concentration for Any Single Grab Sample		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K023	(Continued)	<u>Wastewaters</u>			Concentrations in scrubber water from rotary kiln incineration.	June 8, 1989 (3rd third waste moved to 2nd third)
		Phthalic acid (Phthalic anhydride)	0.54	NA		
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	<u>Nonwastewaters</u>			Rotary kiln incineration.	August 8, 1988
		Phthalic acid (Phthalic anhydride)	28	NA		
		<u>Wastewaters</u>			Concentrations in scrubber water from rotary kiln incineration.	August 8, 1988
		Phthalic acid (Phthalic anhydride)	0.54	NA		
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	<u>Nonwastewaters Disposed of After August 17, 1988 Generated From Listing Description</u>			--	August 8, 1988
		No land disposal based on no generation.				
		<u>Nonwastewaters Originally Disposed of Before August 17, 1988</u>			--	
		No BDAF treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	June 8, 1989 (promulgated in the 1st third rule)
		No BDAF treatment standards promulgated. Soft hammer provisions apply.				
K027	Centrifuge and distillation residues from toluene diisocyanate production.	<u>Nonwastewaters</u>			Incineration or fuel substitution.	June 8, 1989
		Treatment technology - incineration or fuel substitution.				
		<u>Wastewaters</u>			Carbon adsorption or incineration.	June 8, 1989
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.15

Waste Code	Description	Treatment Standards			Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹		
		Constituent	Maximum Concentration for Any Single Grab Sample					
			Total (mg/kg or mg/l)	TCLP (mg/l)				
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989		
		1,1-Dichloroethane	6.0	NA				
		trans-1,2-Dichloroethene	6.0	NA				
		Hexachlorobutadiene	5.6	NA				
		Hexachloroethane	28	NA				
		Pentachloroethane	5.6	NA				
		1,1,1,2-Tetrachloroethane	5.6	NA				
		1,1,2,2-Tetrachloroethane	5.6	NA				
		1,1,1-Trichloroethane	6.0	NA				
		1,1,2-Trichloroethane	6.0	NA				
		Tetrachloroethylene	6.0	NA				
		Chromium (Total)	NA	Reserved				
		Nickel	NA	Reserved				
		<u>Wastewaters</u>					Incineration.	June 8, 1989
		1,1-Dichloroethane	0.007	NA				
		trans-1,2-Dichloroethene	0.033	NA				
		Hexachlorobutadiene	0.007	NA				
		Hexachloroethane	0.033	NA				
		Pentachloroethane	0.033	NA				
		1,1,1,2-Tetrachloroethane	0.007	NA				
		1,1,2,2-Tetrachloroethane	0.007	NA				
		Tetrachloroethylene	0.007	NA				
		1,1,1-Trichloroethane	0.007	NA				
		1,1,2-Trichloroethane	0.007	NA				
		Chromium (Total)	0.35	NA				
		Nickel	0.47	NA				
		Cadmium	6.4	NA				
		Lead	0.037	NA				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.17

Waste Code	Description	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
		Constituent	Maximum Concentration		
			for Any Single Grab Sample Total (mg/kg TCLP (mg/l) or mg/l)		
K031	By-product salts generated in the production of MSMA and cacodylic acid.	<u>Nonwastewaters</u>		--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.			
		<u>Wastewaters</u>		--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.			
K035	Wastewater treatment sludges generated in the production of creosote.	<u>Nonwastewaters</u>		--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.			
		<u>Wastewaters</u>		--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.			
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton.	<u>Nonwastewaters Disposed of After August 17, 1988 Generated From Listing Description</u>		--	August 8, 1988
		No land disposal based on no generation.			
		<u>Nonwastewaters Originally Disposed of Before August 17, 1988</u>		--	
		No BDAT treatment standards promulgated. Soft hammer provisions apply.			
		<u>Wastewaters</u>			June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Disulfoton	0.025	NA	Biological treatment.

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.18

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K037	Wastewater treatment sludge from the production of disulfoton.	<u>Nonwastewaters</u>			Rotary kiln incineration.	August 8, 1988
		Disulfoton	0.1	NA		
		Toluene	28	NA		
		<u>Wastewaters</u>			Concentrations in scrubber water from rotary kiln incineration.	August 8, 1988
		Disulfoton	0.003	NA		
		Toluene	0.028	NA		
K038	Wastewater from the washing and stripping of phorate production.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		Phorate	0.1	NA		
		<u>Wastewaters</u>			Biological treatment.	June 8, 1989
		Phorate	0.025	NA		
		K039	Filter cake from the filtration of diethyl phosphorodic acid in the production of phorate.	<u>Nonwastewaters</u>		
Treatment technology - incineration.						
<u>Wastewaters</u>					Carbon adsorption or incineration.	June 8, 1989
Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.						
K040	Wastewater treatment sludge from the production of phorate.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		Phorate	0.1	NA		
		<u>Wastewaters</u>			Biological treatment.	June 8, 1989
		Phorate	0.025	NA		
		K041	Wastewater treatment sludge from the production of toxaphene.	<u>Nonwastewaters</u>		
No BDAT treatment standards promulgated. Soft hammer provision apply.						

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.19

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K041	(Continued)	<u>Wastewaters</u>			--	June 8, 1989
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	<u>Nonwastewaters</u>			--	June 8, 1989
		No BDAT treatment standards promulgated. Soft hammer provision apply.				
		<u>Wastewaters</u>			--	June 8, 1989
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K043	2,6-Dichlorophenol waste from the production of 2,4-D.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		2,4-Dichlorophenol	0.38	NA		
		2,6-Dichlorophenol	0.34	NA		
		Pentachlorophenol	1.9	NA		
		Tetrachloroethene	1.7	NA		
		Tetrachlorophenols (Total)	0.68	NA		
		2,4,5-Trichlorophenol	8.2	NA		
		2,4,6-Trichlorophenol	7.6	NA		
		Hexachlorodibenzo-p-dioxins	0.001	NA		
		Hexachlorodibenzo-furans	0.001	NA		
		Pentachlorodibenzo-p-dioxins	0.001	NA		
		Pentachlorodibenzo-furans	0.001	NA		
		Tetrachlorodibenzo-p-dioxins	0.001	NA		
		Tetrachlorodibenzo-furans	0.001	NA		

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.20

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K043	(continued)	<u>Wastewaters</u>			Incineration.	June 8, 1989
		2,4-Dichlorophenol	0.049	NA		
		2,6-Dichlorophenol	0.013	NA		
		Pentachlorophenol	0.22	NA		
		Tetrachloroethene	0.006	NA		
		Tetrachlorophenols (Total)	0.018	NA		
		2,4,5-Trichlorophenol	0.016	NA		
		2,4,6-Trichlorophenol	0.039	NA		
		Hexachlorodibenzo-p-dioxins	0.001	NA		
		Hexachlorodibenzo-furans	0.001	NA		
		Pentachlorodibenzo-p-dioxins	0.001	NA		
		Pentachlorodibenzo-furans	0.001	NA		
		Tetrachlorodibenzo-p-dioxins	0.001	NA		
		Tetrachlorodibenzo-furans	0.001	NA		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	<u>Nonwastewaters</u>			--	August 8, 1988
		No land disposal based on reactivity.				
		<u>Wastewaters</u>			--	August 8, 1988
		No land disposal based on reactivity.				
K045	Spent carbon from the treatment of wastewater containing explosives.	<u>Nonwastewaters</u>			--	August 8, 1988
		No land disposal based on reactivity.				
		<u>Wastewaters</u>			--	August 8, 1988
		No land disposal based on reactivity.				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.21

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹		
			Maximum Concentration for Any Single Grab Sample					
			Total (mg/kg or mg/l)	TCLP (mg/l)				
K046	Wastewater treatment sludges from the manufacturing, formulation, and loading of lead based initiating compounds.	<u>Nonwastewaters</u>						
		(Nonreactive Subcategory) ³						
		Lead	NA	0.18	Stabilization.	August 8, 1988		
		(Reactive Subcategory)			--			
		No BDAT treatment standards promulgated. Soft hammer provisions apply.						
		<u>Wastewaters</u>			--	August 8, 1988		
		No BDAT treatment standards promulgated. Soft hammer provisions apply.						

		K047	Pink/red water from TNT operations.	<u>Nonwastewaters</u>			--	August 8, 1988
				No land disposal based on reactivity.				
<u>Wastewaters</u>					--	August 8, 1988		
No land disposal based on reactivity.								

K048	Dissolved air flotation (DAF) float from the petroleum refining industry.	<u>Nonwastewaters</u>			Solvent extraction and/or fluidized bed incineration followed by metal stabilization.	August 8, 1990		
		Benzene	9.5	NA				
		Benzo(a)pyrene	0.84	NA				
		Bis(2-ethyl hexyl) phthalate	37	NA				
		Chrysene	2.2	NA				
		Di-n-butyl phthalate	4.2	NA				
		Ethylbenzene	67	NA				
		Naphthalene	Reserved	NA				
		Phenanthrene	7.7	NA				
		Phenol	2.7	NA				
		Pyrene	2.0	NA				
		Toluene	9.5	NA				
		Xylenes	Reserved	NA				
		Cyanides (Total)	1.8	NA				
		Arsenic	NA	0.004				
		Total Chromium	NA	1.7				
		Nickel	NA	0.048				
		Selenium	NA	0.025				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.22

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K048	(continued)	<u>Wastewaters</u>			Chromium reduction, chemical precipitation, and filtration of scrubber water from fluidized bed incineration.	August 8, 1990
		Benzene	0.011	NA		
		Benzo(a)pyrene	0.047	NA		
		Bis(2-ethylhexyl) phthalate	0.043	NA		
		Chrysene	0.043	NA		
		Di-n-butyl phthalate	0.060	NA		
		Ethylbenzene	0.011	NA		
		Fluorene	0.050	NA		
		Naphthalene	0.033	NA		
		Phenanthrene	0.039	NA		
		Phenol	0.047	NA		
		Pyrene	0.045	NA		
		Toluene	0.011	NA		
		Xylenes	0.011	NA		
		Total Chromium	0.20	NA		
		Lead	0.037	NA		
K049	Slop oil emulsion solids from the petroleum refining industry.	<u>Nonwastewaters</u>			Solvent extraction and/or fluidized bed incineration followed by metal stabilization.	August 8, 1990
		Anthracene	6.2	NA		
		Benzene	9.5	NA		
		Benzo(a)pyrene	0.84	NA		
		Bis(2-ethylhexyl) phthalate	37	NA		
		Chrysene	2.2	NA		
		Ethylbenzene	67	NA		
		Naphthalene	Reserved	NA		
		Phenanthrene	7.7	NA		
		Phenol	2.7	NA		
		Pyrene	2.0	NA		
		Toluene	9.5	NA		
		Xylenes	Reserved	NA		
		Cyanides (Total)	1.8	NA		
		Arsenic	NA	0.004		
		Total Chromium	NA	1.7		
		Nickel	NA	0.048		
		Selenium	NA	0.025		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.23

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration			
			for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K049	(continued)	<u>Wastewaters</u>			Chromium reduction, chemical precipitation, and filtration of scrubber water from fluidized bed incineration.	August 8, 1990
		Anthracene	0.039	NA		
		Benzene	0.011	NA		
		Benzo(a)pyrene	0.047	NA		
		Bis(2-ethylhexyl) phthalate	0.043	NA		
		Carbon disulfide	0.011	NA		
		Chrysene	0.043	NA		
		2,4-Dimethylphenol	0.033	NA		
		Ethylbenzene	0.011	NA		
		Naphthalene	0.033	NA		
		Phenanthrene	0.039	NA		
		Phenol	0.047	NA		
		Pyrene	0.045	NA		
		Toluene	0.011	NA		
		Xylenes	0.011	NA		
		Total Chromium	0.20	NA		
		Lead	0.037	NA		
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	<u>Nonwastewaters</u>			Solvent extraction and/or fluidized bed incineration followed by metal stabilization.	August 8, 1990
		Benzo(a)pyrene	0.84	NA		
		Phenol	2.7	NA		
		Cyanides (Total)	1.8	NA		
		Arsenic	NA	0.004		
		Total Chromium	NA	1.7		
		Nickel	NA	0.048		
		Selenium	NA	0.025		
		<u>Wastewaters</u>			Chromium reduction, chemical precipitation, and filtration of scrubber water from fluidized bed incineration.	August 8, 1990
		Benzo(a)pyrene	0.047	NA		
		Phenol	0.047	NA		
		Total Chromium	0.20	NA		
		Lead	0.037	NA		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.24

Waste Code	Description	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
		Constituent	Maximum Concentration for Any Single Grab Sample		
			Total (mg/kg or mg/l)	TCLP (mg/l)	
K051	API separator sludge from the petroleum refining industry.	<u>Nonwastewaters</u>		Solvent extraction and/or fluidized bed incineration followed by metal stabilization.	August 8, 1990
		Anthracene	6.2	NA	
		Benzene	9.5	NA	
		Benzo(a)anthracene	1.4	NA	
		Benzo(a)pyrene	0.84	NA	
		Bis(2-ethylhexyl) phthalate	37	NA	
		Chrysene	2.2	NA	
		Di-n-butyl phthalate	4.2	NA	
		Ethylbenzene	67	NA	
		Naphthalene	Reserved	NA	
		Phenanthrene	7.7	NA	
		Phenol	2.7	NA	
		Pyrene	2.0	NA	
		Toluene	9.5	NA	
		Xylenes	Reserved	NA	
		Cyanides (Total)	1.8	NA	
		Arsenic	NA	0.004	
		Total Chromium	NA	1.7	
		Nickel	NA	0.048	
		Selenium	NA	0.025	

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.25

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K051	(Continued)	<u>Wastewaters</u>			Chromium reduction, chemical precipitation, and filtration of scrubber water from fluidized bed incineration.	August 8, 1990
		Acenaphthene	0.050	NA		
		Anthracene	0.039	NA		
		Benzene	0.011	NA		
		Benzo(a)anthracene	0.043	NA		
		Benzo(a)pyrene	0.047	NA		
		Bis(2-ethylhexyl) phthalate	0.043	NA		
		Chrysene	0.043	NA		
		Di-n-butyl phthalate	0.060	NA		
		Ethyl benzene	0.011	NA		
		Fluorene	0.050	NA		
		Naphthalene	0.033	NA		
		Phenanthrene	0.039	NA		
		Phenol	0.047	NA		
		Pyrene	0.045	NA		
		Toluene	0.011	NA		
		Xylenes	0.011	NA		
		Total Chromium	0.20	NA		
		Lead	0.037	NA		
K052	Tank bottoms (leaded) from the petroleum refining industry.	<u>Nonwastewaters</u>			Solvent extraction and/or fluidized bed incineration followed by metal stabilization.	August 8, 1990
		Benzene	9.5	NA		
		Benzo(a)pyrene	0.84	NA		
		o-Cresol	2.2	NA		
		p-Cresol	0.90	NA		
		Ethylbenzene	67	NA		
		Naphthalene	Reserved	NA		
		Phenanthrene	7.7	NA		
		Phenol	2.7	NA		
		Toluene	9.5	NA		
		Xylenes	Reserved	NA		
		Cyanides (Total)	1.8	NA		
		Arsenic	NA	0.004		
		Total Chromium	NA	1.7		
		Nickel	NA	0.048		
		Selenium	NA	0.025		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.26

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration			
			for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K052	(Continued)	<u>Wastewaters</u>			Chromium reduction, chemical precipitation, and filtration of scrubber water from fluidized bed incineration.	August 8, 1990
		Benzene	0.011	NA		
		Benzo(a)pyrene	0.047	NA		
		o-Cresol	0.011	NA		
		p-Cresol	0.011	NA		
		2,4-Dimethylphenol	0.033	NA		
		Ethylbenzene	0.011	NA		
		Naphthalene	0.033	NA		
		Phenanthrene	0.039	NA		
		Phenol	0.047	NA		
		Toluene	0.011	NA		
		Xylenes	0.011	NA		
		Total Chromium	0.20	NA		
		Lead	0.037	NA		
K060	Ammonia still lime sludge from coking operations.	<u>Nonwastewaters Disposed of After August 17, 1988</u>			--	August 8, 1988
		<u>Generated From Listing Description</u>				
		No land disposal based on no generation.				
		<u>Nonwastewaters Originally Disposed of Before August 17, 1988</u>			--	
		No BDAT treatment standards promulgated.				
		Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated.				
		Soft hammer provisions apply.				
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	<u>Nonwastewaters -- Interim Treatment Standards⁴</u>			Stabilization.	August 8, 1988
		High Zinc Subcategory (equal to or greater than 15% total zinc)				
		Cadmium	NA	0.14		
		Total Chromium	NA	5.2		
		Lead	NA	0.24		
		Nickel	NA	0.32		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.27

Waste Code	Description	Treatment Standards			Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
		Constituent	Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		

K061 (Continued)		<u>Nonwastewaters -- Final Treatment Standards</u>				
		High Zinc Subcategory			High temperature metals recovery.	August 8, 1990
		No land disposal based on recycling.				
		Low Zinc Subcategory (less than 15% total zinc)			Stabilization.	August 8, 1988
		Cadmium	NA	0.14		
		Total Chromium	NA	5.2		
		Lead	NA	0.24		
		Nickel	NA	0.32		
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				

K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	<u>Nonwastewaters</u> ⁵			Chromium reduction followed by chemical precipitation with sulfide, followed by precipitation, settling, filtering, and dewatering of solid residues.	August 8, 1988
		Total Chromium	NA	0.094		
		Lead	NA	0.37		
		<u>Wastewaters</u> ⁵			Chromium reduction followed by chemical precipitation with sulfide, followed by precipitation, settling, filtering, and dewatering of solid residues.	August 8, 1988
		Total Chromium	0.32	NA		
		Lead	0.04	NA		
		Nickel	0.44	NA		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.28

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K069	Emission control dust/sludge from secondary lead smelting.	<u>Nonwastewaters</u>				August 8, 1988
		Calcium Sulfate Subcategory ⁶			--	
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		Non-Calcium Sulfate Subcategory Disposed of After August 17, 1988 Generated From Listing Description ⁷			--	
		No land disposal based on recycling.				
		Non-Calcium Sulfate Subcategory Originally Disposed of Before August 17, 1988			--	
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	<u>Nonwastewaters</u>			Acid leaching and chemical oxidation followed by washing/dewatering of solid residues.	August 8, 1990
		Mercury	NA	0.025		
		<u>Wastewaters</u>			Sulfide precipitation followed by filtration.	August 8, 1990
		Mercury	0.030	NA		
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	<u>Nonwastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				

APPENDIX A-4

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.29

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K083	Distillation bottoms from aniline production.	<u>Nonwastewaters</u>				
		No Ash Subcategory (Less than 0.01% total ash by weight)			--	June 8, 1989 (No land disposal based on no ash from August 8, 1988 through June 8, 1989)
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		Detectable Ash Subcategory			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	August 8, 1988
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organoarsenic compounds.	<u>Nonwastewaters</u>				
		No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Nonwastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	<u>Nonwastewaters</u>				
		No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Nonwastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.30

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from the cleaning of tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	<u>Nonwastewaters</u> (Solvent Washes Subcategory) ⁸		Stabilization of ash from liquid injection incineration.	August 8, 1988	
		Acetone	0.37	NA		
		bis(2-ethylhexyl) phthalate	0.49	NA		
		n-Butyl alcohol	0.37	NA		
		Cyclohexanone	0.49	NA		
		1,2-Dichlorobenzene	0.49	NA		
		Ethyl acetate	0.37	NA		
		Ethyl benzene	0.031	NA		
		Methanol	0.37	NA		
		Methylene chloride	0.037	NA		
		Methyl ethyl ketone	0.37	NA		
		Methyl isobutyl ketone	0.37	NA		
		Naphthalene	0.49	NA		
		Nitrobenzene	0.49	NA		
		Toluene	0.031	NA		
		1,1,1-Trichloro- ethane	0.044	NA		
		Trichloroethylene	0.031	NA		
		Xylenes	0.015	NA		
		Chromium (Total)	NA	0.094		
		Lead	NA	0.37		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.31

Waste Code	Description	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
		Constituent	Maximum Concentration for Any Single Grab Sample		
			Total (mg/kg or mg/l)	TCLP (mg/l)	
K086 (continued)		<u>Wastewaters</u> (Solvent Washes Subcategory) ⁸		Liquid injection incineration followed by chromium reduction, chemical precipitation and filtration of scrubber water.	August 8, 1988
		Acetone	0.015	NA	
		bis(2-ethylhexyl) phthalate	0.044	NA	
		n-Butyl alcohol	0.031	NA	
		Cyclohexanone	0.022	NA	
		1,2-Dichlorobenzene	0.044	NA	
		Ethyl acetate	0.031	NA	
		Ethyl benzene	0.015	NA	
		Methanol	0.031	NA	
		Methylene chloride	0.031	NA	
		Methyl ethyl ketone	0.031	NA	
		Methyl isobutyl ketone	0.031	NA	
		Naphthalene	0.044	NA	
		Nitrobenzene	0.044	NA	
		Toluene	0.029	NA	
		1,1,1-Trichloroethane	0.031	NA	
		Trichloroethylene	0.029	NA	
		Xylenes	0.015	NA	
		Chromium (Total)	0.32	NA	
		Lead	0.037	NA	
		(Solvent Sludges and Caustic Water Subcategories)		--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.			

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.32

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹		
			Maximum Concentration for Any Single Grab Sample					
			Total (mg/kg or mg/l)	TCLP (mg/l)				
K087	Decanter tank tar sludge from coking operations.	<u>Nonwastewaters</u>			Rotary kiln incineration.	August 8, 1988		
		Acenaphthalene	3.4	NA				
		Benzene	0.071	NA				
		Chrysene	3.4	NA				
		Fluoranthene	3.4	NA				
		Indeno(1,2,3-cd)- pyrene	3.4	NA				
		Naphthalene	3.4	NA				
		Phenanthrene	3.4	NA				
		Toluene	0.65	NA				
		Xylenes	0.070	NA				
		Lead	NA	0.51				
		<u>Wastewaters</u>					Chromium reduction, chemical precipitation and filtration of scrubber water from rotary kiln incineration.	August 8, 1988
		Acenaphthalene	0.028	NA				
		Benzene	0.014	NA				
		Chrysene	0.028	NA				
		Fluoranthene	0.028	NA				
		Indeno(1,2,3-cd)- pyrene	0.028	NA				
		Naphthalene	0.028	NA				
		Phenanthrene	0.028	NA				
		Toluene	0.008	NA				
Xylenes	0.014	NA						
Lead	0.037	NA						
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)		
		Phthalic acid (Phthalic anhydride)	28	NA				
		<u>Wastewaters</u>					Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)
		Phthalic acid (Phthalic anhydride)	0.54	NA				
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)		
		Phthalic acid (Phthalic anhydride)	28	NA				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.33

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K094 (Continued)		<u>Wastewaters</u>			Incineration.	June 8, 1989
		Phthalic acid (Phthalic anhydride)	0.54	NA		
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		1,1,1,2-Tetrachloroethane	5.6			
		1,1,2,2-Tetrachloroethane	5.6			
		Tetrachloroethene	6.0			
		1,1,2-Trichloroethane	6.0			
		Trichloroethylene	5.6			
		Hexachloroethane	28			
		Pentachloroethane	5.6			
		<u>Wastewaters</u>			--	June 8, 1989
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K096	Heavy ends from the heavy end column from the production of 1,1,1-trichloroethane.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		1,3-Dichlorobenzene	5.6			
		Pentachloroethane	5.6			
		1,1,1,2-Tetrachloroethane	5.6			
		1,1,2,2-Tetrachloroethane	5.6			
		Tetrachloroethylene	6.0			
		1,2,4-Trichlorobezene	19			
		Trichloroethylene	5.6			
		1,1,2-Trichloroethane	6.0			

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.34

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K096 (Continued)		<u>Wastewaters</u>			--	June 8, 1989
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	<u>Nonwastewaters</u>			--	June 8, 1989
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	June 8, 1989
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K098	Untreated process wastewater from the production of toxaphene.	<u>Nonwastewaters</u>			--	June 8, 1989
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	June 8, 1989
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K099	Untreated wastewater from the production of 2,4-dichlorophenoxy-acetic acid (2,4-D).	<u>Nonwastewaters</u>			Chemical oxidation using chlorine.	August 8, 1988
		2,4-D	1.0	NA		
		Hexachlorodibenzo-p-dioxins	0.001	NA		
		Hexachlorodibenzo-furans	0.001	NA		
		Pentachlorodibenzo-p-dioxins	0.001	NA		
		Pentachlorodibenzo-furans	0.001	NA		
		Tetrachlorodibenzo-p-dioxins	0.001	NA		
		Tetrachlorodibenzo-furans	0.001	NA		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.35

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K099	(Continued)	<u>Wastewaters</u>			Chemical oxidation using chlorine.	August 8, 1988
		2,4-D	1.0	NA		
		Hexachlorodibenzo-p-dioxins	0.001	NA		
		Hexachlorodibenzo-furans	0.001	NA		
		Pentachlorodibenzo-p-dioxins	0.001	NA		
		Pentachlorodibenzo-furans	0.001	NA		
		Tetrachlorodibenzo-p-dioxins	0.001	NA		
		Tetrachlorodibenzo-furans	0.001	NA		
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	<u>Nonwastewaters Disposed of After August 17, 1988</u>			--	August 8, 1988
		<u>Generated From Listing Description</u>				
		No land disposal based on no generation.				
		<u>Nonwastewaters Originally Disposed of Before August 17, 1988</u>			--	
		No BDAT treatment standard promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	May 8, 1990
		Treatment standards to be proposed and promulgated. ⁹				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.36

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	<u>Nonwastewaters</u>				
		High Arsenic Subcategory (greater than or equal to 1% total arsenic)		--	August 8, 1988	
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		Low Arsenic Subcategory (less than 1% total arsenic)		Rotary kiln incineration followed by stabilization, if necessary.	August 8, 1988	
		Ortho-Nitroaniline	14	NA		
		Cadmium	NA	0.066		
		Chromium (Total)	NA	5.2		
		Lead	NA	0.51		
		Nickel	NA	0.32		
		<u>Wastewaters</u>		Chemical precipitation and filtration of scrubber water from rotary kiln incineration.	August 8, 1988	
		Ortho-Nitroaniline	0.27	NA		
		Arsenic	2.0	NA		
		Cadmium	0.24	NA		
Lead	0.11	NA				
Mercury	0.027	NA				
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	<u>Nonwastewaters</u>				
		High Arsenic Subcategory (greater than or equal to 1% total arsenic)		--	August 8, 1988	
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		Low Arsenic Subcategory (Less than 1% total arsenic)		Rotary kiln incineration followed by stabilization.	August 8, 1988	
		Ortho-Nitrophenol	13	NA		
		Cadmium	NA	0.066		
		Chromium (Total)	NA	5.2		
		Lead	NA	0.51		
		Nickel	NA	0.32		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.37

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K102	(Continued)	<u>Wastewaters</u>			Chemical precipitation and filtration of scrubber water from rotary kiln incineration.	August 8, 1988
		Ortho-Nitrophenol	0.028	NA		
		Arsenic	2.0	NA		
		Cadmium	0.24	NA		
		Lead	0.11	NA		
		Mercury	0.027	NA		
K103	Process residues from aniline extraction from the production of aniline.	<u>Nonwastewaters</u>			Solvent extraction followed by steam stripping of wastewater and incineration of spent solvent. Activated carbon adsorption of steam stripping effluent (water).	August 8, 1988
		Aniline	5.6	NA		
		Benzene	6.0	NA		
		2,4-Dinitrophenol	5.6	NA		
		Nitrobenzene	5.6	NA		
		Phenol	5.6	NA		
		<u>Wastewaters</u>			Solvent extraction followed by steam stripping of wastewater and incineration of spent solvent. Activated carbon adsorption of steam stripping effluent (water).	August 8, 1988
		Aniline	4.5	NA		
		Benzene	0.15	NA		
		2,4-Dinitrophenol	0.61	NA		
		Nitrobenzene	0.073	NA		
		Phenol	1.4	NA		
K104	Combined wastewater streams generated from nitrobenzene/aniline production.	<u>Nonwastewaters</u>			Solvent extraction followed by steam stripping of wastewater and incineration of spent solvent. Activated carbon adsorption of steam stripping effluent (water).	August 8, 1988
		Aniline	5.6	NA		
		Benzene	6.0	NA		
		2,4-Dinitrophenol	5.6	NA		
		Nitrobenzene	5.6	NA		
		Phenol	5.6	NA		
		Total cyanides	1.8	NA		
		<u>Wastewaters</u>			Solvent extraction followed by stream stripping of wastewater and incineration of spent solvent. Activated carbon adsorption of steam stripping effluent (water).	August 8, 1988
		Aniline	4.5	NA		
		Benzene	0.15	NA		
		2,4-Dinitrophenol	0.61	NA		
		Nitrobenzene	0.073	NA		
		Phenol	1.4	NA		
		Total cyanides	2.7	NA		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.38

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	<u>Nonwastewaters</u>			--	June 8, 1989
		No BDAT treatment standards promulgated. Soft hammer provision apply.				
		<u>Wastewaters</u>			--	June 8, 1989
		No BDAT treatment standards promulgated. Soft hammer provision apply.				
K106	Wastewater treatment sludges from the mercury cell process in chlorine production.	<u>Nonwastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
		<u>Wastewaters</u>			--	August 8, 1988
		No BDAT treatment standards promulgated. Soft hammer provisions apply.				
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene.	No BDAT treatment standards promulgated. Land disposal not subject to soft hammer provisions because waste was listed as a hazardous waste after November 8, 1984.			--	None
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	No BDAT treatment standards promulgated. Land disposal not subject to soft hammer provisions because waste was listed as a hazardous waste after November 8, 1984.			--	None
K113	Condensed liquid light ends from the production of toluenediamine via hydrogenation of dinitrotoluene.	<u>Nonwastewaters</u>			Incineration or fuel substitution.	June 8, 1989
		Treatment technology - incineration or fuel substitution.				
		<u>Wastewaters</u>			Carbon adsorption or incineration.	June 8, 1989
		Treatment technology - carbon adsorption, or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.39

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg or mg/l)	TCLP (mg/l)		
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	<u>Nonwastewaters</u>			Incineration or fuel substitution.	June 8, 1989
		Treatment technology - incineration or fuel substitution.				
		<u>Wastewaters</u>			Carbon adsorption or incineration.	June 8, 1989
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	<u>Nonwastewaters</u>			Incineration or fuel substitution; <u>and</u>	June 8, 1989
		Treatment technology - incineration or fuel substitution; and				
		Nickel	NA	0.32	Stabilization (of metals).	
		<u>Wastewaters</u>			Carbon adsorption or incineration <u>and</u>	June 8, 1989
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration; and				
		Nickel	0.47	NA	Stabilization (of metals).	
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	<u>Nonwastewaters</u>			Incineration or fuel substitution.	June 8, 1989
		Treatment technology - incineration or fuel substitution.				
		<u>Wastewaters</u>			Carbon adsorption or incineration.	June 8, 1989
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.40

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
P001	Warfarin, when present at concentration > 0.3%.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P002	1-Acetyl-2-thiourea.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
P003	Acrolein.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
P004	Aldrin.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P005	Allyl alcohol.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P007	5-(Aminoethyl)-3-isoxazolol.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
P008	4-Aminopyridine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
P010	Arsenic acid.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P011	Arsenic (V) oxide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P012	Arsenic (III) oxide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P013	Barium cyanide.	<u>Nonwastewaters</u>			Electrolytic oxidation followed by alkaline chlorination.	June 8, 1989 (3rd third waste moved to 2nd third)
		Cyanide (Total)	110	NA		
		Cyanide (Amenable)	9.1	NA		
		<u>Wastewaters</u>			Alkaline chlorination.	June 8, 1989 (3rd third waste moved to 2nd third)
		Cyanide (Total)	1.9	NA		
		Cyanide (Amenable)	0.10	NA		
P014	Thiophenol.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.41

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration			
			for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
P015	Beryllium dust.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P016	Bis-(chloromethyl) ether.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P018	Brucine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P020	Dinoseb.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P021	Calcium cyanide.	<u>Nonwastewaters</u>			Electrolytic oxidation followed by alkaline chlorination.	June 8, 1989 (3rd third waste moved to 2nd third)
		Cyanide (Total)	110	NA		
		Cyanide (Amenable)	9.1	NA		
		<u>Wastewaters</u>			Alkaline chlorination.	June 8, 1989 (3rd third waste moved to 2nd third)
		Cyanide (Total)	1.9	NA		
		Cyanide (Amenable)	0.10	NA		
P026	1-(o-Chlorophenyl)thiourea.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
P027	Propanenitrile, 3-chloro.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
P029	Copper cyanides.	<u>Nonwastewaters</u>			Electrolytic oxidation followed by alkaline chlorination.	June 8, 1989
		Cyanide (Total)	110	NA		
		Cyanide (Amenable)	9.1	NA		
		<u>Wastewaters</u>			Alkaline chlorination.	June 8, 1989
		Cyanide (Total)	1.9	NA		
		Cyanide (Amenable)	0.10	NA		
P030	Soluble cyanide salts not elsewhere specified.	<u>Nonwastewaters</u>			Electrolytic oxidation followed by alkaline chlorination.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Cyanide (Total)	110	NA		
		Cyanide (Amenable)	9.1	NA		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.42

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
P030	(Continued)	<u>Wastewaters</u>			Alkaline chlorination.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Cyanide (Total)	1.9	NA		
		Cyanide (Amenable)	0.10	NA		
P036	Dichlorophenylarsine.	No EDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P037	Dieldrin.	No EDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P039	Disulfoton.	<u>Nonwastewater</u>			Incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Disulfoton	0.1	NA		
		<u>Wastewater</u>			Biological treatment.	
		Disulfoton	0.025	NA		
P040	Diethyl 2-pyrazinyl phosphorothioate.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		Treatment technology - incineration.				
		<u>Wastewaters</u>			Carbon adsorption or incineration.	June 8, 1989
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				
P041	Diethyl-p-nitrophenyl phosphate.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Treatment technology - incineration				
		<u>Wastewaters</u>			Carbon adsorption or incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.43

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
P043	Diisopropyl fluorophosphate.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		Treatment technology - incineration.				
		<u>Wastewaters</u>			Carbon adsorption or incineration.	June 8, 1989
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				
P044	Dimethoate.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		Treatment technology - incineration.				
		<u>Wastewaters</u>			Carbon adsorption or incineration.	June 8, 1989
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				
P046	2,4-Dinitrophenol.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988
P049	2,4-Dithiobiuret.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		June 8, 1989
P050	Endosulfan.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988
P054	Aziridine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		June 8, 1989
P057	Fluoracetamide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		June 8, 1989
P058	Fluoroacetic acid sodium salt.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988
P059	Heptachlor.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.44

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
P060	Isodrin.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
P062	Hexaethyltetraphosphate.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		Treatment technology - incineration.				
		<u>Wastewaters</u>			Carbon adsorption or incineration.	June 8, 1989
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				
P063	Hydrogen cyanide.	<u>Nonwastewaters</u>			Electrolytic oxidation followed by alkaline chlorination.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Cyanide (Total)	110	NA		
		Cyanide (Amenable)	9.1	NA		
		<u>Wastewaters</u>			Alkaline chlorination.	
		Cyanide (Total)	1.9	NA		
		Cyanide (Amenable)	0.10	NA		
P066	Methomyl.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
P067	2-Methylaziridine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
P068	Methyl Hydrazine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
P069	Methyl lactonitrile.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
P070	Aldicarb.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.45

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
P071	Methyl parathion.	<u>Nonwastewater</u>		Incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)	
		Methyl parathion	0.1			NA
		<u>Wastewater</u>		Biological treatment.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)	
		Methyl parathion	0.025			NA
P072	Alpha-naphthylthiourea (ANTU).	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
P074	Nickel cyanide.	<u>Nonwastewaters</u>		Electrolytic oxidation followed by alkaline chlorination for cyanide constituents; precipitation, settling, filtration, and stabilization for metals.	June 8, 1989	
		Cyanide (Total)	110			NA
		Cyanide (Amenable)	9.1			NA
		Nickel	NA	0.32	Alkaline chlorination for cyanide constituents; precipitation, settling for metals.	June 8, 1989
		<u>Wastewaters</u>				
		Cyanide (Total)	1.9	NA		
	Cyanide (Amenable)	0.10	NA			
	Nickel	0.44	NA			
P081	Nitroglycerine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P082	N-Nitrosodimethylamine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P084	N-Nitrosomethylvinylamine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P085	Octamethylpyrophosphoramide.	<u>Nonwastewaters</u>		Incineration.	June 8, 1989	
		Treatment technology - incineration.				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.46

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
P085	(Continued)	<u>Wastewaters</u>			Carbon adsorption or incineration.	June 8, 1989
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				
P087	Osmium tetroxide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P089	Parathion.	<u>Nonwastewater</u>			Incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Parathion	0.1	NA		
		<u>Wastewater</u>			Biological treatment.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Parathion	0.025	NA		
P092	Phenylmercuric acetate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P094	Phorate.	<u>Nonwastewater</u>			Incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Phorate	0.1	NA		
		<u>Wastewater</u>			Biological treatment.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Phorate	0.025	NA		
P097	Famphur.	<u>Nonwastewater</u>			Incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		Famphur	0.1	NA		

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.47

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
P097	(Continued)	<u>Wastewater</u>			Biological treatment.	June 8, 1989
		Famphur	0.025	NA		(Restricted as a soft hammer waste as of August 8, 1988)
P098	Potassium cyanide.	<u>Nonwastewaters</u>			Electrolytic oxidation followed by alkaline chlorination.	June 8, 1989
		Cyanide (Total)	110	NA		
		Cyanide (Amenable)	9.1	NA		
		<u>Wastewaters</u>			Alkaline chlorination.	June 8, 1989
		Cyanide (Total)	1.9	NA		
		Cyanide (Amenable)	0.10	NA		
P099	Potassium silver cyanide.	<u>Nonwastewaters</u>			Electrolytic oxidation followed by alkaline chlorination for cyanide constituents; precipitation, settling, filtration, and stabilization for metals.	June 8, 1989 (3rd third waste moved to 2nd third)
		Cyanide (Total)	110	NA		
		Cyanide (Amenable)	9.1	NA		
		Silver	NA	0.072		
		<u>Wastewaters</u>			Alkaline chlorination.	June 8, 1989 (3rd third waste moved 2nd third)
		Cyanide (Total)	1.9	NA		
		Cyanide (Amenable)	0.10	NA		
P102	Propargyl alcohol.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P104	Silver cyanide.	<u>Nonwastewaters</u>			Electrolytic oxidation followed by alkaline chlorination for cyanide constituents; precipitation, settling, filtration, and stabilization for metals.	June 8, 1989
		Cyanide (Total)	110	NA		
		Cyanide (Amenable)	9.1	NA		
		Silver	NA	0.072		
		<u>Wastewaters</u>			Alkaline chlorination.	June 8, 1989
		Cyanide (Total)	1.9	NA		
		Cyanide (Amenable)	0.10	NA		
P105	Sodium azide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.48

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
P106	Sodium cyanide.	<u>Nonwastewaters</u>		Electrolytic oxidation followed by alkaline chlorination.	June 8, 1989	
		Cyanide (Total)	110			NA
		Cyanide (Amenable)	9.1			NA
		<u>Wastewaters</u>		Alkaline chlorination.	June 8, 1989	
		Cyanide (Total)	1.9			NA
		Cyanide (Amenable)	0.10			NA
P107	Strontium sulfide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
P108	Strychnine and salts.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
P109	Tetraethyl dithiopyrophosphate.	<u>Nonwastewaters</u>		Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)	
		Treatment technology - incineration.				
		<u>Wastewaters</u>		Carbon adsorption or incineration.	June 8, 1989 (3rd third waste moved to 2nd third)	
		Treatment technology - carbon adsorption, or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				
P110	Tetraethyl lead.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
P111	Tetraethyl pyrophosphate.	<u>Nonwastewaters</u>		Incineration.	June 8, 1989	
		Treatment technology - incineration.				
		<u>Wastewaters</u>		Carbon adsorption or incineration.	June 8, 1989	
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				
P112	Tetranitromethane.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.49

Waste Code	Description	Constituent	Treatment Standards Maximum Concentration for Any Single Grab Sample		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Total (mg/kg)	TCLP (mg/L)		
P113	Thallic oxide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
P114	Thallium (I) selenite.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
P115	Thallium (I) sulfate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P120	Vanadium pentoxide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P121	Zinc cyanide.	<u>Nonwastewaters</u>			Electrolytic oxidation followed by alkaline chlorination.	June 8, 1989 (3rd third waste moved to 2nd third)
		Cyanide (Total)	110	NA		
		Cyanide (Amenable)	9.1	NA		
		<u>Wastewaters</u>			Alkaline chlorination.	June 8, 1989 (3rd third waste moved to 2nd third)
		Cyanide (Total)	1.9	NA		
		Cyanide (Amenable)	0.10	NA		
P122	Zinc phosphide, when present at concentrations greater than 10%.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
P123	Toxaphene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U002	Acetone.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U003	Acetonitrile.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U005	o-Acetylaminofluorene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U007	Acrylamide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U008	Acrylic acid.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.50

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
U009	Acrylonitrile.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U010	Mitomycin C.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U011	Amitrole.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U012	Aniline.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U014	Auramine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U015	Azaserine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U016	Benz(c)acridine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U018	Benz(a)anthracene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U019	Benzene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U020	Benzenesulfonyl chloride.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U021	Benzidine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U022	Benzo(a)pyrene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U023	Benzotrichloride.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U025	Dichloroethyl ether.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U026	Chlornaphazine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.51

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
U028	Bis-(2-ethylhexyl)phthalate.	<u>Nonwastewater</u>			Rotary kiln incineration.	June 8, 1989
		Bis-(2-ethylhexyl)-phthalate	28	NA		
		<u>Wastewater</u>			Concentrations in scrubber water from rotary kiln incineration.	June 8, 1989
		Bis-(2-ethylhexyl)-phthalate	0.54	NA		
U029	Methyl bromide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988
U031	n-Butanol.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988
U032	Calcium chromate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		June 8, 1989
U035	Chlorambucil.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		June 8, 1989
U036	Chlordane, technical.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988
U037	Chlorobenzene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988
U041	n-Chloro-2,3-epoxypropane.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988
U043	Vinyl chloride.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988
U044	Chloroform.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988
U046	Chloromethyl methyl ether.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		August 8, 1988
U047	Beta-chloronaphthalene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--		June 8, 1989

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.52

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
U049	4-Chloro-o-toluidine, hydrochloride.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
U050	Chrysene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
U051	Creosote.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
U053	Crotonaldehyde.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
U057	Cyclohexanone.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
U058	Cyclophosphamide.	<u>Nonwastewaters</u> Treatment technology - incineration.		Incineration.	June 8, 1989	
		<u>Wastewaters</u> Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.		Carbon adsorption or incineration.	June 8, 1989	
U059	Daunomycin.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
U060	DDD.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
U061	DDT.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
U062	Diallate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
U063	Dibenz o (a. h) anthracene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
U064	2,2,7,8-Dibenzopyrene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.53

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
U066	Dibromo-3-chloropropane.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
U067	Ethylene, 1,2-dichloro-	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
U069	Di-n-butyl phthalate.	<u>Nonwastewaters</u>		Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)	
		Di-n-butyl phthalate	28	NA		
		<u>Wastewaters</u>		Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)	
		Di-n-butyl phthalate	0.54	NA		
U070	o-Dichlorobenzene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
U073	Dichlorobenzidine, 3,3'-	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
U074	1,4-Dichloro-2-butene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
U077	Ethane, 1,2-dichloro-	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
U078	Dichloroethylene, 1,1-	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
U080	Methylene chloride.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
U083	Dichloropropane, 1,2-	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989	
U086	N,N Diethylhydrazine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988	
U087	0,0-Diethyl-S-methyl dithiophosphate.	<u>Nonwastewaters</u>		Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)	
		Treatment technology - incineration.				

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.54

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
U087	(Continued)	<u>Wastewaters</u>			Carbon adsorption or incineration.	June 8, 1989 (3rd third waste moved to 2nd third)
		Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.				
U088	Diethyl phthalate.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)
		Diethyl phthalate	28	NA		
		<u>Wastewaters</u>			Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)
		Diethyl phthalate	0.54	NA		
U089	Diethylstilbestrol.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U092	Dimethylamine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U093	Dimethylaminoazobenzene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U094	Dimethylbenz(a)anthracene, 7,12-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U095	Dimethylbenzidine, 3,3'-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U097	Dimethylcarbamoyl chloride.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U098	Dimethylhydrazine, 1,1-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U099	Dimethylhydrazine, 1,2-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U101	Dimethylphenol, 2,4-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989

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TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.55

Waste Code	Description	Constituent	Treatment Standards Maximum Concentration for Any Single Grab Sample		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Total (mg/kg)	TCLP (mg/l)		
U102	Dimethyl phthalate.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)
		Dimethyl phthalate	28	NA		
		<u>Wastewaters</u>			Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)
		Dimethyl phthalate	0.54	NA		
U103	Dimethyl sulfate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U105	2,4-Dinitrotoluene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U106	Dinitrotoluene, 2,6-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U107	Di-n-octyl phthalate.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989
		Di-n-octyl phthalate	28	NA		
		<u>Wastewaters</u>			Incineration.	June 8, 1989
		Di-n-octyl phthalate	0.54	NA		
U108	Dioxane, 1,4-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U109	1,2,-Diphenylhydrazine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U110	Dipropylamine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U111	Di-N-Propylnitrosamine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U114	Ethylenebis-(dithiocarbamic acid).	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989

APPENDIX A-4

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.56

Waste Code	Description	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
		Constituent	Maximum Concentration		
			for Any Single Grab Sample Total (mg/kg) TCLP (mg/l)		
U115	Ethylene oxide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	August 8, 1988	
U116	Ethylene thiourea.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	June 8, 1989	
U119	Ethyl methanesulfonate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	June 8, 1989	
U122	Formaldehyde.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	August 8, 1988	
U124	Furan.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	August 8, 1988	
U127	Hexachlorobenzene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	June 8, 1989	
U128	Hexachlorobutadiene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	June 8, 1989	
U129	Lindane.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	August 8, 1988	
U130	Hexachlorocyclopentadiene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	August 8, 1988	
U131	Hexachloroethane.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	June 8, 1989	
U133	Hydrazine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	August 8, 1988	
U134	Hydrofluoric acid.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	August 8, 1988	
U135	Hydrogen sulfide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	June 8, 1989	
U137	Indeno (1,2,3-cd)pyrene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	August 8, 1988	
U138	Methyl iodide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.	--	June 8, 1989	

APPENDIX A-4

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.57

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
U140	Isobutyl alcohol.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U142	Kepono.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U143	Lasiocarpine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U144	Lead acetate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U146	Lead subacetate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U147	Maleic anhydride.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U149	Malononitrile.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U150	Melphalan.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U151	Mercury.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U154	Methanol.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U155	Methapyrilene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U157	3-Methylcholanthrene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U158	4,4-Methylene-bis-(2-chloroaniline).	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U159	Methyl ethyl ketone.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U161	Methyl isobutyl ketone.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989

APPENDIX A-4

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.58

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration			
			for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
U162	Methyl methacrylate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U163	N-Methyl-N-nitro-N-nitrosoguanidine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U164	Methylthiouracil.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U165	Naphthalene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U168	Naphthylamine, 2-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U169	Nitrobenzene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U170	p-Nitrophenol.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U171	Nitropropane, 2-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U172	N-Nitroso-di-n-butylamine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U173	N-Nitroso-diethanolamine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U174	N-Nitroso-diethylamine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U176	N-Nitroso-N-ethylurea.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U177	N-Nitroso-N-methylurea.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U178	N-Nitroso-N-methylurethane.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U179	N-Nitrosopiperidine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989

APPENDIX A-4

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.59

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
U180	N-Nitrosopyrrolidine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U185	Pentachloronitrobenzene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U188	Phenol.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U189	Phosphorus sulfide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U190	Phthalic anhydride.	<u>Nonwastewaters</u>			Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)
		Phthalic anhydride (measured as Phthalic acid)	28	NA		
		<u>Wastewaters</u>			Incineration.	June 8, 1989 (3rd third waste moved to 2nd third)
		Phthalic anhydride (measured as Phthalic acid)	0.54	NA		
U192	Pronamide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U193	1,3-Propane sultone.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U196	Pyridine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U200	Reserpine.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U203	Safrole.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U205	Selenium disulfide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U206	Streptozotocin.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989

APPENDIX A-4

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.60

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration			
			for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
U208	Trichloroethane, 1,1,1,2-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U209	Tetrachloroethane, 1,1,2,2-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U210	Tetrachloroethylene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U211	Carbon tetrachloride.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U213	Tetrahydrofuran.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U214	Thallium (I) acetate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U215	Thallium (I) carbonate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U216	Thallium (I) chloride.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U217	Thallium (I) nitrate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U218	Thioacetamide.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	June 8, 1989
U219	Thiourea.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U220	Toluene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U221	Toluenediamine.	<u>Nonwastewaters</u> Treatment technology - incineration or fuel substitution.			Incineration or fuel substitution.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)

APPENDIX A-4

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.61

Waste Code	Description	Constituent	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
			Maximum Concentration for Any Single Grab Sample			
			Total (mg/kg)	TCLP (mg/l)		
U221	(Continued)	<u>Wastewaters</u> Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.			Carbon adsorption or incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
U223	Toluene diisocyanate.	<u>Nonwastewaters</u> Treatment technology - incineration or fuel substitution.			Incineration or fuel substitution.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
		<u>Wastewaters</u> Treatment technology - carbon adsorption or incineration; or pretreatment (such as biological treatment or chemical oxidation) followed by carbon adsorption and incineration.			Carbon adsorption or incineration.	June 8, 1989 (Restricted as a soft hammer waste as of August 8, 1988)
U226	Methylchloroform.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U227	Trichloroethane, 1,1,2-	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U228	Trichloroethylene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988
U235	Tris (2,3-Dibromopropyl) phosphate.	<u>Nonwastewaters</u> tris-(2,3-Dibromopropyl) phosphate 0.1 NA			Rotary kiln incineration.	June 8, 1989
		<u>Wastewaters</u> tris-(2,3-Dibromopropyl) phosphate 0.025 NA			Biological treatment.	June 8, 1989
U237	Uracil mustard.	No BDAT treatment standards promulgated. Soft hammer provisions apply.			--	August 8, 1988

APPENDIX A-4

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST AND SECOND THIRD WASTES

A-4.62

Waste Code	Description	Treatment Standards		Best Demonstrated Treatment Technology Used As Basis for Standards	Effective Date ¹
		Constituent	Maximum Concentration		
			for Any Single Grab Sample Total (mg/kg) TCLP (mg/l)		
U238	Ethyl carbamate.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988
U239	Xylene.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989
U244	Thiram.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	June 8, 1989
U248	Warfarin, when present at concentrations of 0.3% or less.	No BDAT treatment standards promulgated. Soft hammer provisions apply.		--	August 8, 1988
U249	Zinc phosphide, when present at concentrations of 10% or less.	No BDAT treatment standards promulgated. Soft hammer provisions apply..		--	August 8, 1988

EXHIBIT A-3

TREATMENT STANDARDS AND EFFECTIVE DATES FOR FIRST THIRD WASTES

Footnotes

- ¹ Effective date is the date the treatment standards or soft hammer provisions take effect for all First or Second Third wastes, with two exceptions. For soil and debris wastes contaminated with First Third wastes for which BDAT is incineration, the effective date is August 8, 1990 based on a capacity extension. Until August 1990, such soil and debris must be disposed of in a unit that meets the RCRA minimum technology requirements. For soil and debris wastes contaminated with Second Third wastes for which BDAT is incineration, the effective date is June 8, 1991 based on a capacity extension. Until June 1991, such soil and debris must be disposed of in a unit that meets the RCRA minimum technology requirements.
 - ² Not applicable.
 - ³ This standard does not apply to K046 nonwastewaters that are explosive as originally generated. Residues from the open detonation, open burning, or incineration of K046 nonwastewaters that are explosive as originally generated do not have to meet these standards.
 - ⁴ Effective until August 8, 1990. The effective date of final treatment standards for nonwastewaters is being deferred until after this date because of inadequate high temperature metals recovery capacity.
 - ⁵ Standards do not apply to residues generated as a result of lime (Ca(OH)_2) treatment that are not classified as hazardous wastes according to 40 CFR 261.3(c)(2)(ii), unless they are hazardous due to the characteristic of EP toxicity.
 - ⁶ Emission control sludges generated as calcium sulfate from secondary wet scrubbers using lime neutralization.
 - ⁷ Emission control sludges that are not generated as calcium sulfate from secondary wet scrubbers using lime neutralization.
 - ⁸ Treatment standards for the solvent sludges or caustic/water washes and sludges subcategories to be promulgated prior to May 8, 1990. Soft hammer provisions apply.
 - ⁹ These provisions are not applicable to K100 wastewaters until May 8, 1990 because this is a Third Third waste. Soft hammer provisions do not apply at this time.
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APPENDIX B

CONSTITUENTS AND THEIR STRUCTURAL/FUNCTIONAL GROUPS

APPENDIX B

BDAT LIST COMPOUNDS WITHIN EACH STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
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I. Halogenated Organics	
1. <u>Halogenated Non-Polar Aromatic Compounds</u>	
Chlorobenzene	108-90-7
Chlorobenzilate	570-15-6
2-Chloronapthalene	91-58-7
1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
Hexachlorobenzene	118-74-1
Hexachlorophene	70-3-04
Pentachlorobenzene	608-93-5
1,2,4,5-Tetrachlorobenzene	95-94-3
1,2,4-Trichlorobenzene	120-82-1
Benzal Chloride	98-87-3
DDD	72-54-8
DDE	72-55-9
DDT	50-29-3
Hexachlorocyclopentadiene	77-47-4
2a. <u>Dioxins/Furans and their Precursors</u>	
Hexachlorodibenzo-p-dioxins	--
Hexachlorodibenzofurans	--
Pentachlorodibenzo-p-dioxins	--
Pentachlorodibenzofurans	--
Tetrachlorodibenzo-p-dioxins	--
Tetrachlorodibenzofurans	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
2,4-Dichlorophenoxyacetic acid	94-75-7
2,4,5-TP (Silvex)	93-72-1
2,4,5-T	93-76-5

APPENDIX B (continued)

BDAT LIST COMPOUNDS WITHIN EACH STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
2b. <u>PCBs</u>	
Aroclor 1016	12674-11-2
Aroclor 1221	11104-28-2
Aroclor 1232	11141-16-5
Aroclor 1242	53469-21-9
Aroclor 1248	12672-29-6
Aroclor 1254	11097-69-1
Aroclor 1260	11096-82-5
2c. <u>Herbicides</u>	
2,4,5-T	93-76-5
2,4-D	94-75-7
3. <u>Halogenated Phenols, Cresols, Other Polar Aromatics</u>	
4-Chloroaniline	106-47-8
2-Chlorophenol	95-57-8
3,3'-Dichlorobenzidine	91-94-1
2,4-Dichlorophenol	120-83-2
2,6-Dichlorophenol	87-65-0
4,4'-Methylenebis(2-chloroaniline)	101-14-4
Pentachlorophenol	87-86-5
2,3,4,6-Tetrachlorophenol	58-90-2
2,4,5-Trichlorophenol	95-95-4
2,4,6-Trichlorophenol	88-06-2
p-Chloro-m-cresol (4-Chloro-3-methylphenol)	59-50-7
Methoxychlor	72-43-5
4-Bromophenyl phenyl ether	101-55-3
Pentachloronitrobenzene	82-68-8
4. <u>Halogenated Aliphatic Compounds</u>	
Bromodichloromethane	75-27-4
Bromomethane	74-83-9
Carbon tetrachloride	56-23-5
2-Chloro-1,3-butadiene	126-99-8
Chlorodibromomethane	124-48-1
Chloroethane	75-00-3
Chloroform	67-66-3
Chloromethane	74-87-3
3-Chloropropene	107-05-1

APPENDIX B (continued)

BDAT LIST COMPOUNDS WITHIN EACH
STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
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4. <u>Halogenated Aliphatic Compounds (continued)</u>	
1,2-Dibromo-3-chloropropane	96-12-8
1,2-Dibromoethane	106-93-4
Dibromomethane	74-95-3
trans-1,4-Dichloro-2-butene	110-57-6
Dichlorodifluoromethane	75-71-8
1,1-Dichloroethane	75-34-3
1,2-Dichloroethane	107-06-2
1,1-Dichloroethene	75-35-4
trans-1,2-Dichloroethene	156-60-5
1,2-Dichloropropane	78-87-5
trans-1,3-Dichloropropene	10061-02-6
cis-1,3-Dichloropropene	10061-01-5
Methylene chloride	75-09-2
1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethene	127-18-4
Tribromomethane	75-25-2
1,1,1-Trichloroethane	71-55-6
1,1,2-Trichloroethane	79-00-5
Trichloroethene	79-01-6
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
Trichloromonofluoromethane	75-69-4
1,2,3-Trichloropropane	96-18-4
Vinyl chloride	75-01-4
Hexachlorobutadiene	87-68-3
Hexachloroethane	62-72-1
Hexachloropropene	1888-71-7
Pentachloroethane	76-01-7
Tris(2,3-dibromopropyl)phosphate	126-72-7
Iodomethane	74-88-4
5. <u>Halogenated Cyclic Aliphatics/Ethers/Esters/Ketones</u>	
Aramite	140-57-8
Aldrin	309-00-2
alpha-BHC	319-84-6
beta-BHC	319-85-7

APPENDIX B (continued)

BDAT LIST COMPOUNDS WITHIN EACH STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
5. <u>Halogenated Cyclic Aliphatics/Ethers/Esters/Ketones</u> (continued)	
delta-BHC	319-86-8
gamma-BHC	58-89-9
Chlordane	57-74-9
Dieldrin	60-57-1
Endosulfan I	939-98-8
Endosulfan II	33213-06-5
Endrin	72-20-8
Endrin aldehyde	7421-93-4
Heptachlor	76-44-8
Heptachlor epoxide	1024-57-3
Isodrin	465-73-6
Kepone	143-50-0
Toxaphene	8001-35-2
2-Chloroethyl vinyl ether	110-75-8
Bis(2-chloroethoxy)methane	111-91-1
Bis(2-chloroethyl)ether	111-44-4
Bis(2-chloroisopropyl)ether	39638-32-9
3-Chloropropionitrile	542-76-7
II. Non-Halogenated Organics	
6. <u>Nitrated Aromatic and Aliphatic Compounds</u>	
2-sec-Butyl-4,6-dinitrophenol	88-85-7
1,4-Dinitrobenzene	100-25-4
4,6-Dinitro-o-cresol (2-Methyl-4,6-dinitrophenol)	534-52-1
2,4-Dinitrophenol	51-28-5
2,4-Dinitrotoluene	121-14-2
2,6-Dinitrotoluene	606-20-2
5-Nitro-o-toluidine	95-65-8
Methyl parathion	298-00-0
Parathion	56-38-2
4-Nitroaniline	100-06-6
Nitrobenzene	98-95-3
4-Nitrophenol	100-02-7
2-Nitropropane	79-46-9

APPENDIX B (continued)

BDAT LIST COMPOUNDS WITHIN EACH STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
7. <u>Simple Non-Polar Aromatics and Heterocyclics</u>	
Toluene	108-88-3
1,2-Xylene	97-47-6
1,3-Xylene	108-38-3
1,4-Xylene	106-44-5
Isoafrole	120-58-1
Safrole	94-59-7
Pyridine	110-86-1
2-Picoline	109-06-8
Benzene	71-43-2
Ethylbenzene	100-41-4
8. <u>Polynuclear Aromatics</u>	
Acenaphthylene	208-96-8
Acenaphthene	83-32-9
Anthracene	120-12-7
Benz(a)anthracene	56-55-3
Benzo(b)fluoranthene	205-99-2
Benzo(k)fluoranthene	207-08-9
Benzo(ghi)perylene	191-24-2
Benzo(a)pyrene	50-32-8
Chrysene	218-01-9
Dibenz(a,h)anthracene	53-70-3
Dibenzo(a,e)pyrene	192-65-4
Dibenzo(a,i)pyrene	106-46-7
Fluoranthene	206-44-0
Fluorene	86-73-7
Indenol(1,2,3-cd)pyrene	120-58-1
Methapyrilene	91-80-5
3-Methylcholanthrene	56-49-5
Naphthalene	91-20-13
Phenanthrene	85-01-8
Pyrene	129-00-0

APPENDIX B (continued)

BDAT LIST COMPOUNDS WITHIN EACH
STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
<u>9. Other Polar Organic Compounds</u>	
2-Acetylaminofluorene	53-96-3
4-Aminobiphenyl	92-67-1
Aniline	62-53-3
3,3'-Dimethoxybenzidine	119-90-4
p-Dimethylaminoazobenzene	60-11-7
3,3'-Dimethylbenzidine	119-93-7
Di-n-propylnitrosamine	621-64-7
Diphenylamine	112-39-4
Diphenylnitrosamine	86-30-6
1,2-Diphenylhydrazine	122-66-7
1-Naphthylamine	134-32-7
2-Naphthylamine	91-59-8
N-Nitrosodi-n-butylamine	924-116-3
N-Nitrosodiethylamine	55-18-5
N-Nitrosodimethylamine	62-75-9
N-Nitrosomethylethylamine	10595-95-6
N-Nitrosomorpholine	58-89-2
N-Nitrosopiperidine	100-75-4
N-Nitrosopyrrolidine	930-55-2
Phenacetin	62-44-2
o-Cresol (2-Methylphenol)	95-48-7
p-Cresol (4-Methylphenol)	106-44-5
2,4-Dimethylphenol	105-67-9
Phenol	108-95-2
Resorcinol	108-46-3
Acrolein	107-02-8
Carbon disulfide	75-15-0
Ethyl methacrylate	97-63-2
Isobutyl alcohol	78-83-1
Ethylene oxide	75-21-8
Benzenethiol	108-98-5
2-Butanone (methyl ethyl ketone)	78-93-3
4-Methyl-2-pentanone (methyl isobutyl ketone)	108-10-1
Methyl methacrylate	80-62-6
Methyl methanesulfonate	66-27-3
Acetophenone	96-86-2

APPENDIX B (continued)

BDAT LIST COMPOUNDS WITHIN EACH
STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
9. <u>Other Polar Organic Compounds</u> (continued)	
p-Benzoquinone	106-51-4
Bis(2-ethylhexyl) phthalate	117-81-7
Butylbenzyl phthalate	85-68-7
Diethyl phthalate	84-66-2
Dimethyl phthalate	131-11-3
Di-n-butyl phthalate	84-74-2
Di-n-octyl phthalate	117-84-0
1,4-Naphthoquinone	130-15-4
Acetonitrile	75-05-8
Ethyl cyanide	107-12-0
Methacrylonitrile	126-98-7
Disulfoton	298-04-4
Famphur	52-85-7
Phorate	298-02-2
Phthalic anhydride	85-44-9
1,4-Dioxane	123-91-1
Acetone	67-64-1
n-Butanol	71-36-3
Cyclohexanone	108-94-1
2-Ethoxyethanol	110-80-5
Ethyl acetate	141-78-6
Ethyl ether	60-29-7
Methanol	67-56-1
Pronamide	23950-58-5
III. Inorganics	
10. <u>Non-Volatile Metals</u>	
Barium	7440-39-3
Beryllium	7440-41-7
Chromium (total and hexavalent)	7440-47-3
Copper	7440-50-8
Lead	7439-92-1
Nickel	7440-22-0
Silver	7440-22-4
Vanadium	7440-62-2

APPENDIX B (continued)

BDAT LIST COMPOUNDS WITHIN EACH
STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
11. <u>Volatile Metals</u>	
Antimony	7440-36-0
Arsenic	7440-38-2
Cadmium	7440-43-9
Mercury	7439-97-6
Selenium	7782-49-2
Thallium	7440-28-0
12. <u>Other Inorganics</u>	
Cyanide	57-12-5
Fluoride	16964-48-8
Sulfide	8496-25-8

APPENDIX B

BDAT LIST COMPOUNDS WITHIN EACH STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
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I. Halogenated Organics	
1. <u>Halogenated Non-Polar Aromatic Compounds</u>	
Chlorobenzene	108-90-7
Chlorobenzilate	570-15-6
2-Chloronapthalene	91-58-7
1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
Hexachlorobenzene	118-74-1
Hexachlorophene	70-3-04
Pentachlorobenzene	608-93-5
1,2,4,5-Tetrachlorobenzene	95-94-3
1,2,4-Trichlorobenzene	120-82-1
Benzal Chloride	98-87-3
DDD	72-54-8
DDE	72-55-9
DDT	50-29-3
Hexachlorocyclopentadiene	77-47-4
2a. <u>Dioxins/Furans and their Precursors</u>	
Hexachlorodibenzo-p-dioxins	--
Hexachlorodibenzofurans	--
Pentachlorodibenzo-p-dioxins	--
Pentachlorodibenzofurans	--
Tetrachlorodibenzo-p-dioxins	--
Tetrachlorodibenzofurans	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
2,4-Dichlorophenoxyacetic acid	94-75-7
2,4,5-TP (Silvex)	93-72-1
2,4,5-T	93-76-5

APPENDIX B (continued)

BDAT LIST COMPOUNDS WITHIN EACH STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
4. <u>Halogenated Aliphatic Compounds (continued)</u>	
1,2-Dibromo-3-chloropropane	96-12-8
1,2-Dibromoethane	106-93-4
Dibromomethane	74-95-3
trans-1,4-Dichloro-2-butene	110-57-6
Dichlorodifluoromethane	75-71-8
1,1-Dichloroethane	75-34-3
1,2-Dichloroethane	107-06-2
1,1-Dichloroethene	75-35-4
trans-1,2-Dichloroethene	156-60-5
1,2-Dichloropropane	78-87-5
trans-1,3-Dichloropropene	10061-02-6
cis-1,3-Dichloropropene	10061-01-5
Methylene chloride	75-09-2
1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethene	127-18-4
Tribromomethane	75-25-2
1,1,1-Trichloroethane	71-55-6
1,1,2-Trichloroethane	79-00-5
Trichloroethene	79-01-6
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
Trichloromonofluoromethane	75-69-4
1,2,3-Trichloropropane	96-18-4
Vinyl chloride	75-01-4
Hexachlorobutadiene	87-68-3
Hexachloroethane	62-72-1
Hexachloropropene	1888-71-7
Pentachloroethane	76-01-7
Tris(2,3-dibromopropyl)phosphate	126-72-7
Iodomethane	74-88-4
5. <u>Halogenated Cyclic Aliphatics/Ethers/Esters/Ketones</u>	
Aramite	140-57-8
Aldrin	309-00-2
alpha-BHC	319-84-6
beta-BHC	319-85-7

APPENDIX B (continued)

BDAT LIST COMPOUNDS WITHIN EACH
STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
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7. <u>Simple Non-Polar Aromatics and Heterocyclics</u>	
Toluene	108-88-3
1,2-Xylene	97-47-6
1,3-Xylene	108-38-3
1,4-Xylene	106-44-5
Isoafrole	120-58-1
Safrole	94-59-7
Pyridine	110-86-1
2-Picoline	109-06-8
Benzene	71-43-2
Ethylbenzene	100-41-4
8. <u>Polynuclear Aromatics</u>	
Acenaphthylene	208-96-8
Acenaphthene	83-32-9
Anthracene	120-12-7
Benz(a)anthracene	56-55-3
Benzo(b)fluoranthene	205-99-2
Benzo(k)fluoranthene	207-08-9
Benzo(ghi)perylene	191-24-2
Benzo(a)pyrene	50-32-8
Chrysene	218-01-9
Dibenz(a,h)anthracene	53-70-3
Dibenzo(a,e)pyrene	192-65-4
Dibenzo(a,i)pyrene	106-46-7
Fluoranthene	206-44-0
Fluorene	86-73-7
Indenol(1,2,3-cd)pyrene	120-58-1
Methapyrilene	91-80-5
3-Methylcholanthrene	56-49-5
Naphthalene	91-20-13
Phenanthrene	85-01-8
Pyrene	129-00-0

APPENDIX B (continued)

BDAT LIST COMPOUNDS WITHIN EACH STRUCTURAL FUNCTIONAL GROUP

Group/Compound	CAS Number
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9. Other Polar Organic Compounds (continued)

p-Benzoquinone	106-51-4
Bis(2-ethylhexyl) phthalate	117-81-7
Butylbenzyl phthalate	85-68-7
Diethyl phthalate	84-66-2
Dimethyl phthalate	131-11-3
Di-n-butyl phthalate	84-74-2
Di-n-octyl phthalate	117-84-0
1,4-Naphthoquinone	130-15-4
Acetonitrile	75-05-8
Ethyl cyanide	107-12-0
Methacrylonitrile	126-98-7
Disulfoton	298-04-4
Famphur	52-85-7
Phorate	298-02-2
Phthalic anhydride	85-44-9
1,4-Dioxane	123-91-1
Acetone	67-64-1
n-Butanol	71-36-3
Cyclohexanone	108-94-1
2-Ethoxyethanol	110-80-5
Ethyl acetate	141-78-6
Ethyl ether	60-29-7
Methanol	67-56-1
Pronamide	23950-58-5

III. Inorganics

10. Non-Volatile Metals

Barium	7440-39-3
Beryllium	7440-41-7
Chromium (total and hexavalent)	7440-47-3
Copper	7440-50-8
Lead	7439-92-1
Nickel	7440-22-0
Silver	7440-22-4
Vanadium	7440-62-2
