UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

Date: February 8, 1991

Subject: Industrial categories subject to "zero discharge", "total recycle", or similar BAT/BPT/BCT requirements

From: Carmen M. Torres-Ortega Carmen
Permit Section, Unit I

To: Permit Section Staff

Attached please find a copy of a list of the industrial categories that are subject to some particular requirements (i.e. zero discharge, total recycle, or similar BAT/BPT/BCT). This list includes industrial category, subcategories, 40 CFR requirements and cites. This list is also in a database file that I have put together, so if you would like to modify the current information or have additional ideas to make similar information available to the rest of the Permits Section staff, please let me know.

I hope that this information is in some way useful to you.

cc: Karnauskas
Dzikowski

LIST OF INDUSTRY CATEGORIES SUBJECT TO "ZERO DISCHARGE" , "TOTAL RECYCLE", OR SIMILAR BAT/BPT/BCT REQUIREMENTS

40CFR PART	SUBCATEGORY	REQUIREMENTS	40 CFR CITES
**	ASBESTOS MANUFACTURING		
427	ASBESTOS FLOOR TILE	BAT	427.73
427	ASBESTOS FLOOR TILE	NSPS	427.75
427	ASBESTOS MILLBOARD	BPT	427.52
427	ASBESTOS MILLBOARD	BAT	427.53
427	ASBESTOS MILLBOARD	NSPS	427.55
427	ASBESTOS PAPER (ELASTOMERIC)	BAT	427.43
427	ASBESTOS PAPER (STARCH BINDER)	BAT	427.33
427	ASBESTOS PAPER (STARCH BINDER)	NSPS	427.35
427	ASBESTOS ROOFING	BAT	427.63
427	ASBESTOS ROOFING	NSPS	427.65
427	ASBESTOS-CEMENT PIPE	BAT	427.13
427	ASBESTOS-CEMENT SHEET	BAT	427.23
427	ASBESTOS-CEMENT SHEET	NSPS	427.25
427	COAT OR FINISH ASB. TEXTILES	BPT	427.82
427	COAT OR FINISH ASB. TEXTILES	BAT	427.83
427	COAT OR FINISH ASB. TEXTILES	NSPS	427.85
427	VAPOR ABSORPTION	BPT	427.102
427	VAPOR ABSORPTION	BAT	427.103
427	VAPOR ABSORPTION	NSPS	427.105
427	WET DUST COLLECTION	NSPS	427.115
**	BATTERY MANUFACTURING		
461	CALCIUM	NSPS	461.23
461	CALCIUM	PSNS	461.25
**	CARBON BLACK MANUFACTURING		
458	CARBON BLACK CHANNEL PROCESS	BPT	458.32
458	CARBON BLACK CHANNEL PROCESS	BAT	458.33
458	CARBON BLACK CHANNEL PROCESS	NSPS	458.35
458	CARBON BLACK FURNACE PROCESS	BAT	458.13
458	CARBON BLACK LAMP PROCESS	BPT	458.42
458	CARBON BLACK LAMP PROCESS	BAT	458.43
458	CARBON BLACK LAMP PROCESS	NSPS	458.45
458	CARBON BLACK THERMAL PROCESS	BPT	458.22
458	CARBON BLACK THERMAL PROCESS	BAT	458.23
458	CARBON BLACK THERMAL PROCESS	NSPS	458.25
**	CARBON BLACK MANUFACTURNIG		
458	CARBON BLACK FURNACE PROCESS	NSPS	458.15
**	FEEDLOTS		
412	ALL EXCEPT DUCKS	BPT	412.12
412	ALL EXCEPT DUCKS	BAT	412.13
412	ALL EXCEPT DUCKS	NSPS	412.15
412	DUCKS	NSPS	412.25

LIST OF INDUSTRY CATEGORIES SUBJECT
TO "ZERO DISCHARGE" , "TOTAL RECYCLE"
OR SIMILAR BAT/BPT/BCT REQUIREMENTS

40CFR PART	SUBCATEGORY	REQUIREMENTS	40 CFR CITES
** FERROALLOY MANUFACTURING			
424	OTHER CALCIUM CARBIDE FURNACES	BPT	424.52
424	OTHER CALCIUM CARBIDE FURNACES	BAT	424.53
424	OTHER CALCIUM CARBIDE FURNACES	BCT	424.57
** FERTILIZER MANUFACTURING			
418	AMMONIUM SULFATE PRODUCTION	BPT	418.62
418	AMMONIUM SULFATE PRODUCTION	BAT	418.63
418	AMMONIUM SULFATE PRODUCTION	NSPS	418.65
418	AMMONIUM SULFATE PRODUCTION	BCT	418.67
418	MIXED AND BLEND FERTILIZER	BPT	418.72
418	MIXED AND BLEND FERTILIZER	BAT	418.73
418	MIXED AND BLEND FERTILIZER	NSPS	418.75
418	MIXED AND BLEND FERTILIZER	BCT	418.77
418	PHOSPHATE	BPT	418.12
418	PHOSPHATE	BAT	418.13
418	PHOSPHATE	NSPS	418.15
418	PHOSPHATE	PSNS	418.16
418	PHOSPHATE	BCT	418.17
** GLASS MANUFACTURING			
426	INSULATION FIBERGLASS	BPT	426.12
426	INSULATION FIBERGLASS	BAT	426.13
426	INSULATION FIBERGLASS	NSPS	426.15
426	PLATE GLASS MANUFACTURING	NSPS	426.45
426	ROLLED GLASS MANUFACTURING	BPT	426.32
426	ROLLED GLASS MANUFACTURING	BAT	426.33
426	ROLLED GLASS MANUFACTURING	NSPS	426.35
426	ROLLED GLASS MANUFACTURING	BCT	426.37
426	SHEET GLASS MANUFACTURING	BPT	426.22
426	SHEET GLASS MANUFACTURING	BAT	426.23
426	SHEET GLASS MANUFACTURING	NSPS	426.25
426	SHEET GLASS MANUFACTURING	BCT	426.27
** GRAIN MILLS			
406	ANIMAL FEED	BPT	406.72
406	ANIMAL FEED	BAT	406.73
406	ANIMAL FEED	NSPS	406.75
406	HOT CEREAL	BPT	406.82
406	HOT CEREAL	BAT	406.83
406	HOT CEREAL	NSPS	406.85
406	HOT CEREAL	NSPS	406.87
406	NORMAL RICE MILLING	BPT	406.52
406	NORMAL RICE MILLING	BAT	406.53
406	NORMAL RICE MILLING	NSPS	406.55
406	NORMAL WHEAT FLOUR MILLING	BPT	406.32
406	NORMAL WHEAT FLOUR MILLING	BAT	406.33

LIST OF INDUSTRY CATEGORIES SUBJECT
TO "ZERO DISCHARGE" , "TOTAL RECYCLE",
OR SIMILAR BAT/BPT/BCT REQUIREMENTS

40CFR PART	SUBCATEGORY	REQUIREMENTS	40 CFR CITES
406	NORMAL WHEAT FLOUR MILLING	NSPS	406.35
**	GUM & WOOD CHEMICALS MANUFACTURING		
454	CHAR & CHARCOAL BRIQUETS	BPT	454.12
**	INK FORMULATING		
447	OIL-BASE SOLVENT WASH INK	BPT	447.12
447	OIL-BASE SOLVENT WASH INK	BAT	447.13
447	OIL-BASE SOLVENT WASH INK	NSPS	447.15
447	OIL-BASE SOLVENT WASH INK	PSNS	447.16
**	INORGANIC CHEMICALS MANNUFACTURING		
415	ZINC SULFATE PRODUCTION	BPT	415.632
**	INORGANIC CHEMICALS MANUFACTURING		
415	ALUMINUM SULFATE PRODUCTION	BPT	415.22
415	ALUMINUM SULFATE PRODUCTION	BAT	415.23
415	ALUMINUM SULFATE PRODUCTION	NSPS	415.25
415	AMMONIUM CHLORIDE PRODUCTION	BPT	415.242
415	BORAX PRODUCTION	BPT	415.272
415	BORIC ACID PRODUCTION	BPT	415.282
415	BROMINE PRODUCTION	BPT	415.292
415	CALCIUM CARBIDE PRODUCTION	BPT	415.32
415	CALCIUM CARBIDE PRODUCTION	BAT	415.33
415	CALCIUM CARBIDE PRODUCTION	NSPS	415.35
415	CALCIUM CARBIDE PRODUCTION	PSNS	415.36
415	CALCIUM CHLORIDE PRODUCTION	BAT	415.43
415	CALCIUM CHLORIDE PRODUCTION	NSPS	415.45
415	CALCIUM CHLORIDE PRODUCTION	PSNS	415.46
415	CALCIUM HYDROXIDE PRODUCTION	BPT	415.312
415	CALCIUM OXIDE PRODUCTION	BPT	415.52
415	CALCIUM OXIDE PRODUCTION	BAT	415.53
415	CALCIUM OXIDE PRODUCTION	NSPS	415.55
415	CHROMIC ACID PRODUCTION	BPT	415.352
415	FERRIC CHLORIDE PRODUCTION	BPT	415.382
415	FLUORINE PRODUCTION	BPT	415.402
415	HYDROGEN PRODUCTION	BPT	415.412
415	IODINE PRODUCTION	BPT	415.432
415	LEAD MONOXIDE PRODUCTION	BPT	415.442
415	LITHIUM CARBONATE PRODUCTION	BPT	415.452
415	POTASSIUM CHLORIDE PRODUCTION	BPT	415.502
415	POTASSIUM DICHROMATE PRODUCTIO	BPT	415.122
415	POTASSIUM DICHROMATE PRODUCTIO	BAT	415.123
415	POTASSIUM DICHROMATE PRODUCTIO	NSPS	415.125
415	POTASSIUM DICHROMATE PRODUCTIO	PSNS	415.126
415	POTASSIUM METAL PRODUCTION	BPT	415.112
415	POTASSIUM METAL PRODUCTION	BAT	415.113

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40CFR PART	SUBCATEGORY	REQUIREMENTS	40 CFR CITES
415	POTASSIUM METAL PRODUCTION	NSPS	415.115
415	POTASSIUM METAL PRODUCTION	PSNS	415.116
415	POTASSIUM SULFATE PRODUCTION	BPT	415.132
415	POTASSIUM SULFATE PRODUCTION	BAT	415.133
415	POTASSIUM SULFATE PRODUCTION	NSPS	415.135
415	SODIUM BICARBONATE PRODUCTION	BPT	415.142
415	SODIUM BICARBONATE PRODUCTION	BAT	415.143
415	SODIUM BICARBONATE PRODUCTION	NSPS	415.145
415	SODIUM BICARBONATE PRODUCTION	PSNS	415.146
415	SODIUM CHLORIDE	NSPS	415.165
415	SODIUM CHLORIDE PRODUCTION	BPT	415.162
415	SODIUM FLUORIDE PRODUCTION	BPT	415.552
415	STANNIC OXIDE PRODUCTION	BPT	415.602
**	IRON AND STEEL MANUFACTURING		
420	COKEMAKING	BPT	420.12
420	COKEMAKING	BAT	420.13
420	COKEMAKING	NSPS	420.14
420	COKEMAKING	BCT	420.17
420	STEELMAKING	BPT	420.42
420	STEELMAKING	BAT	420.43
420	STEELMAKING	BCT	420.47
**	METAL MOLDING & CASTING		
464	ALUMINUM CASTING	BPT	464.12
464	ALUMINUM CASTING	BAT	464.13
464	ALUMINUM CASTING	NSPS	464.14
464	ALUMINUM CASTING	PSES	464.15
464	ALUMINUM CASTING	PSNS	464.16
464	COPPER CASTING	BPT	464.22
464	COPPER CASTING	BAT	464.23
464	COPPER CASTING	NSPS	464.24
464	COPPER CASTING	PSES	464.25
464	COPPER CASTING	PSNS	464.26
464	FERROUS CASTING	BPT	464.32
464	FERROUS CASTING	BAT	464.33
464	FERROUS CASTING	NSPS	464.34
464	FERROUS CASTING	PSES	464.35
464	FERROUS CASTING	PSNS	464.36
**	MINERAL MINNING & PROCESSING		
436	BORAX	BPT	436.132
436	FRASCH SULFUR	BPT	436.192
436	POTASH	BPT	436.142
436	SALINES FROM BRINE LAKES	BPT	436.122
436	SODIUM SULFATE	BPT	436.152

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40CFR PART	SUBCATEGORY	REQUIREMENTS	40 CFR CITES
** NONFERROUS METAL FORMING & METAL POWDERS			
471	LEAD-TIN-BISMUTH FORMING	BPT	471.11
471	LEAD-TIN-BISMUTH FORMING	BAT	471.12
471	LEAD-TIN-BISMUTH FORMING	NSPS	471.13
471	LEAD-TIN-BISMUTH FORMING	PSES	471.14
471	LEAD-TIN-BISMUTH FORMING	PSNS	471.15
471	MAGNESIUM FORMING	BPT	471.21
471	MAGNESIUM FORMING	BAT	471.22
471	MAGNESIUM FORMING	NSPS	471.23
471	MAGNESIUM FORMING	PSES	471.24
471	MAGNESIUM FORMING	PSNS	471.25
471	METAL POWDERS	BPT	471.101
471	METAL POWDERS	BAT	471.102
471	METAL POWDERS	NSPS	471.103
471	METAL POWDERS	PSES	471.104
471	METAL POWDERS	PSNS	471.105
471	NICKEL-COBALT FORMING	BPT	471.31
471	NICKEL-COBALT FORMING	BAT	471.32
471	NICKEL-COBALT FORMING	NSPS	471.33
471	NICKEL-COBALT FORMING	PSES	471.34
471	NICKEL-COBALT FORMING	PSNS	471.35
471	PRECIOUS METAL FORMING	BPT	471.41
471	PRECIOUS METAL FORMING	BAT	471.42
471	PRECIOUS METALS FORMING	NSPS	471.43
471	PRECIOUS METALS FORMING	PSES	471.44
471	PRECIOUS METALS FORMING	PSNS	471.45
471	REFRACTORY METALS FORMING	BPT	471.51
471	REFRACTORY METALS FORMING	BAT	471.52
471	REFRACTORY METALS FORMING	NSPS	471.53
471	REFRACTORY METALS FORMING	PSES	471.54
471	REFRACTORY METALS FORMING	PSNS	471.55
471	TITANIUM FORMING	BPT	471.61
471	TITANIUM FORMING	BAT	471.62
471	TITANIUM FORMING	NSPS	471.63
471	TITANIUM FORMING	PSES	471.64
471	TITANIUM FORMING	PSNS	471.65
471	URANIUM FORMING	BPT	471.71
471	URANIUM FORMING	BAT	471.72
471	URANIUM FORMING	NSPS	471.73
471	URANIUM FORMING	PSNS	471.75
471	ZINC FORMING	BPT	471.81
471	ZINC FORMING	BAT	471.82
471	ZINC FORMING	NSPS	471.83
471	ZINC FORMING	PSNS	471.85
471	ZIRCONIUM-HAFNIUM FORMING	BPT	471.91
471	ZIRCONIUM-HAFNIUM FORMING	BAT	471.92
471	ZIRCONIUM-HAFNIUM FORMING	NSPS	471.93

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40CFR PART	SUBCATEGORY	REQUIREMENTS	40 CFR CITES
471	ZIRCONIUM-HAFNIUM FORMING	PSES	471.94
471	ZIRCONIUM-HAFNIUM FORMING	PSNS	471.95
**	NONFERROUS METAL MANUFACTURING		
421	SECONDARY COPPER	PSNS	421.66
**	NONFERROUS METALS MANUFACTURING		
421	BAUXITE REFINING	BPT	421.12
421	BAUXITE REFINING	BAT	421.13
421	BAUXITE REFINING	NSPS	421.15
421	PRIMARY COPPER SMELTING	BPT	421.42
421	PRIMARY COPPER SMELTING	BAT	421.43
421	PRIMARY COPPER SMELTING	PSNS	421.46
421	SECONDARY ALUMINUM SMELTING	BPT	421.32
421	SECONDARY COPPER	BPT	421.62
421	SECONDARY COPPER	BAT	421.63
421	SECONDARY COPPER	NSPS	421.64
421	SECONDARY COPPER	PSNS	421.65
**	PAINT FORMULATING		
446	OIL-BASE SOLVENT WASH PAINT	BPT	446.12
446	OIL-BASE SOLVENT WASH PAINT	BAT	446.13
446	OIL-BASE SOLVENT WASH PAINT	NSPS	446.15
446	OIL-BASE SOLVENT WASH PAINT	PSNS	446.16
**	PAVING & ROFFING MATERIALS(TARS&ASPHALT)		
443	ASPHALT CONCRETE	BPT	443.22
**	PAVING & ROOFING MATERIALS(TARS&ASPHALT)		
443	ASPHALT CONCRETE	BAT	443.23
443	ASPHALT CONCRETE	NSPS	443.25
**	PESTICIDE CHEMICALS		
455	METALLO-ORG.PEST.CHEM.MANUF.	BPT	455.32
455	PEST.CHEM.FORMULATING&PACKING	BPT	455.42
**	PHOSPHATE MANUFACTURING		
422	DEFLUORINATED PHOSPHATE ROCK	BAT	422.23
422	DEFLUORINATED PHOSPHATE ROCK	BPT	422.42
422	DEFLUORINATED PHOSPHATE ROCK	NSPS	422.45
422	DEFLUORINATED PHOSPHATE ROCK	BCT	422.47
422	DEFLUORINATED PHOSPHORIC ACID	BPT	422.52
422	DEFLUORINATED PHOSPHORIC ACID	BAT	422.53
422	DEFLUORINATED PHOSPHORIC ACID	NSPS	422.55
422	DEFLUORINATED PHOSPHORIC ACID	BCT	422.57

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40CFR PART	SUBCATEGORY	REQUIREMENTS	40 CFR CITES
** PORCELAIN ENAMELING			
466	CAST IRON BASIS MATERIAL	BPT	466.21
466	CAST IRON BASIS MATERIAL	BAT	466.22
466	CAST IRON BASIS MATERIAL	NSPS	466.23
466	CAST IRON BASIS MATERIAL	PSES	466.24
466	CAST IRON BASIS MATERIAL	PSNS	466.25
** SUGAR PROCEESING			
409	HAWAIIAN RAW CANE SUGAR	BPT	409.72
** SUGAR PROCESSING			
409	BEET SUGAR PROCESSING	NSPS	409.15
409	FL/TX RAW CANE SUGAR PROCESS	BPT	409.52
** TIMBER PRODUCTS PROCESSING			
429	DRY PROCESS HARDBOARD	BPT	429.51
** TIMBER PRODUCTS PROCESSING			
429	BARKING	BPT	429.21
429	BARKING	NSPS	429.24
429	DRY PROCESS HARDBOARD	BAT	429.53
429	DRY PROCESS HARDBOARD	NSPS	429.54
429	FINISHING	BPT	429.131
429	FINISHING	BAT	429.133
429	FINISHING	NSPS	429.134
429	INSULATION BOARD	NSPS	429.154
429	LOG WASHING	BPT	429.111
429	LOG WASHING	BAT	429.113
429	LOG WASHING	NSPS	429.114
429	PARTICLEBOARD MANUFACTURING	BPT	429.141
429	PARTICLEBOARD MANUFACTURING	BAT	429.143
429	PARTICLEBOARD MANUFACTURING	NSPS	429.144
429	PLYWOOD	BPT	429.41
429	PLYWOOD	BAT	429.43
429	PLYWOOD	NSPS	429.44
429	SAWMILL & PLANNING MILLS	BPT	429.121
429	SAWMILLS & PLANNING MILLS	BAT	429.123
429	SAWMILLS & PLANNING MILLS	NSPS	429.124
429	VENEER	BPT	429.31
429	VENEER	BAT	429.33
429	VENEER	NSPS	429.34
429	WD FURN. & FIXTURE W/O WATER	BPT	429.161
429	WD FURN.& FIXTURE W/O WATER	BAT	429.163
429	WD. FURN.& FIXTURE W/ WATER	BAT	429.173
429	WD. FURN.& FIXTURE W/ WATER	NSPS	429.174
429	WD. FURN.& FIXTURE W/O WATER	NSPS	429.164
429	WET PROCESS HARDBOARD	BPT	429.62

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40CFR PART	SUBCATEGORY	REQUIREMENTS	40 CFR CITES
429	WET PROCESS HARDBOARD	NSPS	429.64
429	WOOD PRESERV.-WBORNE/NON-PRESS	BPT	429.71
429	WOOD PRESERV.-WBORNE/NON-PRESS	BAT	429.73
429	WOOD PRESERV.-WBORNE/NON-PRESS	NSPS	429.74
429	WOOD PRESERVING STEAM	NSPS	429.84
429	WOOD PRESERVING-BOULTON	BPT	429.91
429	WOOD PRESERVING-BOULTON	BAT	429.93
429	WOOD PRESERVING-BOULTON	NSPS	429.94

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

FEB 16 1989

MEMORANDUM

OFFICE OF WATER

SUBJECT: Conventional Pollutants Regulated by Categorical Pretreatment Standards

FROM: James R. Elder, Director
Office of Water Enforcement and Permits

TO: Regional Water Management Division Directors
Regional Water Compliance Branch Chiefs

On August 24, 1988, the Office of Water Enforcement and Permits (OWEP) issued a memorandum which addressed the implementation of pretreatment standards for industrial categories listed in the Code of Federal Regulations (CFR) which were not a part of the 1976 NRDC Consent Decree with the EPA. A copy of the memorandum is attached for your convenience.

The memorandum was a response to questions from States and Regional representatives which apparently resulted from the fact that numerous EPA guidance documents which list industrial categories subject to pretreatment standards have omitted reference to industrial categories with standards issued prior to the 1976 Consent Decree. The memorandum directed that such standards be fully implemented for the control of toxic and nonconventional pollutants as well as for no-discharge requirements. The question left unanswered by the memorandum was how Control Authorities should address pre-1976 categorical pretreatment standards for conventional pollutants. The purpose of this memorandum is to provide guidance on the implementation of these regulations. This memorandum also addresses zero discharge limits for certain pre-Consent Decree industrial categories and also analyzes conventional pollutant cross references in certain categorical pretreatment standards.

The pre-1976 regulations for conventional pollutants apply only to new sources, but given that some of these standards were proposed in the early 1970's, numerous Industrial Users (IUs) may now be affected. The pre-Consent Decree industrial categories with categorical standards regulating conventional pollutants are presented in the following list:

Part	Category	Subparts	Proposal Date
426	Glass Manufacturing	H, K, & L	08/21/74
428	Rubber Manufacturing	E - J	08/23/74
443	Paving and Roofing	A - D	01/10/75
458	Carbon Black Manufacturing	A - D	05/18/76

where PSNS exist

The Rubber, Paving and Roofing, and Carbon Black Manufacturers are regulated for Oil and Grease at 100 mg/l while the Glass Manufacturers have production based Oil and Grease standards which vary for each applicable subpart. For facilities which are included in the subparts listed above and which began construction after the proposal date, Control Authorities should direct industrial users to comply with these pretreatment standards.

In addition, in the memo of August 24, 1988, OWEP indicated that it would perform a review and provide information regarding the implementation of the no-discharge standards for the Grain Mills (Subparts C & E), Sugar Processing (Subpart A), and Feedlots (Subparts A & B) categories. OWEP, in conjunction with the Office of General Counsel (OGC), has reviewed these standards. Control Authorities should be directed to implement the no-discharge requirements found in the CFR for these industrial categories and enforce against instances of noncompliance.

Today's guidance, together with the guidance of August 24, 1988, directs that pretreatment standards regarding any and all pollutants, including no-discharge requirements, should be enforced for all non-Consent Decree categorical industries.

where NSPS exist but PSNS does not exist: X-Reference

In a separate analysis, OWEP, in conjunction with the OGC, has reviewed categorical pretreatment standards in the CFR with the following conditions: 1) the Pretreatment Standards for New Sources (PSNS) cross reference the New Source Peformance Standards (NSPS) using language similar to the following:

> The pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works shall be the standard of performance for new sources (emphasis added);

and 2) the NSPS only contains listings for conventional pollutants. Conventional pollutants, however, are not considered incompatible. Therefore, in situations where this cross reference exists and where only conventional pollutants are listed in the NSPS, there is no applicable categorical pretreatment standard for new sources. These industrial sources, however, are subject to the General Pretreatment Regulations found in 40 CFR Part 403. This cross reference occurs in the following industrial categories:

Part	Category	Subparts
405	Dairy Products	A - L
406	Grain Mills	B, D & F
407	Canned and Preserved Fruits and Vegetables	A - E
409	Sugar Processing	B & C
411	Cement Processing	A - C
426	Glass Manufacturing	F
428	Rubber Manufacturing	A

In industrial categories where a similar cross-reference exists but the NSPS contains listings for both compatible and incompatible pollutants (see, e.g., §428.46), the pretreatment standard consists of only the NSPS control of the incompatible pollutant.

If you have any questions concerning our analysis please feel free to call me at (FTS 475-8488). The staff contact is Lee Okster (FTS 475-9511).

Attachment

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

AUG 24 1988

OFFICE OF WATER

MEMORANDUM

SUBJECT: Non-Consent Decree Categorical Pretreatment Standards

FROM: James R. Elder, Director
Office of Water Enforcement and Permits

TO: Regional Water Management Division Directors
Regional Water Compliance Branch Chiefs

Last January, at the National Pretreatment Meeting in Philadelphia, several states raised questions regarding the enforceability of pretreatment regulations promulgated prior to the 1976 Consent Decree between EPA and the Natural Resources Defense Council (NRDC). These same questions have also been raised in other forums; e.g., the Pretreatment Compliance Monitoring and Enforcement Workshop in Richmond, Virginia and the Local Limits Workshop in Washington, D.C. These questions apparently result from the fact that numerous EPA guidance documents which list industrial categories subject to pretreatment standards have omitted reference to industrial categories with standards issued prior to the 1976 Consent Decree. Additionally, the primary focus by EPA in pretreatment program implementation has been the 21 NRDC industrial categories.

In response to these questions, the Office of Water Enforcement and Permits (OWEP), in conjunction with the Office of Water Regulations and Standards (OWRS) and the Office of Enforcement and Compliance Monitoring (OECM), has initiated a review of the industrial categories in the Code of Federal Regulations (CFR) which EPA has not addressed in previous pretreatment guidance. Based on that review, the attachment to this memorandum identifies: 1) those non-Consent Decree categorical standards for toxics and non-conventional pollutants, as well as no-discharge specifications for which Control and Approval Authorities should take immediate action to ensure industrial user compliance; 2) those conventional pollutant standards that EPA is continuing to review; and 3) a listing of categories that have no categorical pretreatment standards and which, therefore, require no action by Control and Approval Authorities. (See the attachment for a summary of the

standards reviewed). Of the industrial categories not covered under the NRDC Consent Decree, eight industrial categories are of particular concern due to the nature of their pollutant discharges. For these industrial categories, Control Authorities should take immediate steps to ensure that new sources comply with the regulations. These eight industrial categories include:

Soap and Detergent Manufacturing
Fertilizer Manufacturing
Ferroalloy Manufacturing
Glass Manufacturing
Asbestos Manufacturing
Rubber Manufacturing
Paint Formulating
Ink Formulating

The EPA Regions are responsible for ensuring that pretreatment delegated States and/or Control Authorities are provided with information as to the status of pretreatment regulations. Control Authorities should be directed to implement the categorical regulations for toxics, non-conventional pollutants, and the no-discharge specifications for new sources in the eight industrial categories cited above as part of their regular pretreatment programs. In their required industrial user survey, Control Authorities should already have identified the industrial facilities within their service area for which pretreatment standards apply.

In order to determine whether an industrial user is subject to the pretreatment standards for new sources (PSNS), the Control Authority should obtain the date the facility commenced construction and compare it to the proposed date of the regulation, as listed in the attachment. If the facility is found to be subject to PSNS, the Control Authority should inform the facility of the requirement to comply with these pretreatment regulations. For facilities which are in violation of these pretreatment standards, the Control Authority should establish an expeditious compliance schedule (in no case greater than three years) in an appropriate enforcement order or other control mechanism.

If you have any questions please call me (FTS 475-8488) or Bill Jordan (FTS 475-8304). The staff contact is Lee Okster (FTS 475-9511).

Attachment

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NON-CONSENT DECREE CATEGORICAL PRETREATMENT STANDARDS

U.S. Environmental Protection Agency
Office of Water Enforcement and Permits
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PRE-CONSENT DECREE CATEGORICAL PRETREATMENT STANDARDS

Evaluation of Pretreatment Standards in the CFR not Previously Implemented

INTRODUCTION

The Code of Federal Regulations (CFR) governs the conduct of the pretreatment program and lists industrial categories which have existing and new source pretreatment standards. Most of the industrial categories listed in the CFR have been informed as to what actions are expected of them, but some of the industrial categories have been omitted in EPA guidance documents which list categories subject to pretreatment regulations.

Those industrial categories for which pretreatment implementation requirements were established as a result of the NRDC Consent Decree are presented in the following list:

Industrial Category (Consent Decree)

- 413 Electroplating
- 414 Organic Chemicals and Plastics and Synthetic Fibers
- 415 Inorganic Chemicals
- 419 Petroleum Refining
- 420 Iron and Steel Manufacturing
- 421 Nonferrous Metals Manufacturing
- 423 Steam Electric Power Generation
- 425 Leather Tanning and Finishing
- 429 Timber Products Processing
- 430 Pulp, Paper and Paperboard Processing
- 431 The Builder's Paper and Board Mills
- 433 Metal Finishing
- 439 Pharmaceutical Manufacturing
- 461 Battery Manufacturing
- 464 Metal Molding and Casting
- 465 Coil Coating
- 466 Porcelain Enameling
- 467 Aluminum Forming
- 468 Copper Forming
- 469 Electrical and Electronic Components
- 471 Nonferrous Metals Forming

These industrial users have received guidance relating to the implementation of pretreatment regulations in the CFR.

Implementation of the pre-Consent Decree pretreatment standards found in the CFR, however, has not been specifically addressed for many industrial categories. Those industries for which pretreatment standards have not been specifically addressed are presented in the following list:

Industrial Category (Pre-Consent Decree)

405 Dairy Products Processing
406 Grain Mills
407 Canned and Preserved Fruits and Vegetables Processing
408 Canned and Preserved Seafood Processing
409 Sugar Processing
410 Textile Mills
411 Cement Manufacturing
412 Feedlots
417 Soap and Detergent Manufacturing
418 Fertilizer Manufacturing
422 Phosphate Manufacturing
424 Ferroalloy Manufacturing
426 Glass Manufacturing
427 Asbestos Manufacturing
428 Rubber Manufacturing
432 Meat Products Processing
434 Coal Mining
435 Oil and Gas Extraction
436 Mineral Mining and Processing
440 Ore Mining and Dressing
443 Paving and Roofing Materials (tars and asphalt)
446 Paint Formulating
447 Ink Formulating
454 Gum and Wood Chemicals Manufacturing
455 Pesticide Chemicals
457 Explosives Manufacturing
458 Carbon Black Manufacturing
459 Photographic
460 Hospital
463 Plastics Molding and Forming

Of the 30 industrial categories listed above, only eight (in highlight) are regulated for toxic and non-conventional pollutants or have no-discharge specifications. These eight industrial categories are given primary emphasis in this guidance due to the nature of the regulated pollutants.

This report is divided into three sections. The first section introduces the non-Consent Decree industrial categories and provides a framework for further discussions. Section II evaluates the pretreatment standards for the pre-Consent Decree industrial categories (with emphasis on the eight highlighted industrial categories) and gives examples of each type of standard. Section III provides information regarding the implementation of the categorical pretreatment standards for the eight highlighted industrial categories.

PRE-CONSENT DECREE PRETREATMENT STANDARDS

This section of the report discusses the various types of pretreatment standards found in the CFR which were issued prior to 1977. The pretreatment standards for these industrial categories fall into six major types.

1. Standards which regulate toxic substances.
2. Standards which prohibit discharge of wastewater.
3. Standards which regulate non-conventional pollutants.
4. Standards which regulate conventional pollutants.
5. Standards which simply reference the General Pretreatment Regulations found in sections 128 and 403 of the CFR.
6. No standards

These standards are broken down into existing source standards and new source standards. For many of the industrial categories, regulations were issued for new source dischargers only; pre-Consent Decree pretreatment standards that address toxics, non-conventionals, no-discharge prohibitions, and conventional pollutants are for new sources only. The pre-Consent Decree pretreatment standards which simply reference parts 128 or 403 or for which there is no listing in the CFR cover both existing and new sources.

This document discusses the new source and existing source standards separately and provides examples from the text to help clarify the intent of the regulation.

New source pretreatment standards

1. Standards which regulate toxic substances

The regulations in the CFR for non-Consent Decree industrial categories regulated for toxic pollutants apply to new sources only. Industrial categories and subparts which are regulated for toxic substances are presented in the following list:

Part	Category/Subpart	Regulated Pollutant
424	FERROALLOY MANUFACTURING	
	A - Open Electric Furnaces with Wet Air Pollution Control Devices	Chromium - Total Chromium VI
	B - Covered Electric Furnaces with Wet Air Pollution Control Devices	Chromium - Total Chromium VI Cyanide - Total
	C - Slag Processing	Chromium - Total
427	ASBESTOS MANUFACTURING	
	A - Asbestos Cement Pipe	TSS*
	D - Asbestos Paper (Elastomeric Binder)	TSS*

E - Small Sized Molded, Extruded and Fabricated Plants ..... Lead
F - Medium Sized Molded, Extruded and Fabricated Plants ..... Lead
G - Large Sized Molded, Extruded and Fabricated Plants ..... Lead
J - Latex Dipped, Latex Extruded and Latex Molded Rubber Plants ..... Chromium
K - Latex Foam ..... Zinc

* Surrogate for asbestos fibers

In cases where the regulations use surrogate substances for the control of toxics, the regulations should be considered as toxic regulation and implemented as soon as possible. This is the case for the Asbestos Manufacturing sector where the restriction on Total Suspended Solids (TSS) is a surrogate for the control of asbestos fibers in the effluent.

The Office of Water Enforcement and Permits (OWEP) and the Office of Water Regulations and Standards (OWRS) have reviewed the regulations and consider the control of toxic pollutants for these three categories to be legally required and environmentally appropriate. Industrial Users (IUs) covered under these regulations are categorical facilities and are subject to the requirements presented in the CFR.

For facilities which are included in the subparts listed above and which began construction after the following dates, Control Authorities should direct that pretreatment standards be adopted.

Rubber Manufacturing	August 23, 1974
Ferroalloy Manufacturing	October 18, 1973
Asbestos Manufacturing	October 30, 1973

States and Publicly Owned Treatment Works (POTWs) should be made aware of the status of these regulations and the need to ensure that compliance is achieved regarding the pretreatment standards in these industrial categories.

2. Standards which prohibit discharge of wastewater

The regulations in the CFR for non-Consent Decree industrial categories which specify no-discharge of process wastewater apply to new sources of discharge only. Industrial categories and subparts which are regulated for no discharge of process

wastewater are presented in the following list:

Within these industrial categories, there are three distinct types of discharge restrictions outlined in the CFR. First, there is a provision for no-discharge to navigable waters from the industrial user. This restriction applies to the Grain Mills (all subparts), Sugar Processing (all subparts), Feedlots (all subparts), Glass Manufacturing (all subparts), and Asbestos Manufacturing (all subparts) industrial categories listed below. Second, industrial users are prohibited from discharging any process wastewater to a POTW. This restriction applies to the Paint Formulating and Ink Formulating industrial categories. Finally, there is a prohibition from discharging any process wastewater pollutants whatsoever. This restriction applies to the Fertilizer Manufacturing industrial category.

Part	Category/Subpart
406	GRAIN MILLS
	C - Normal Wheat Flour Milling
	E - Normal Rice Milling
409	SUGAR PROCESSING
	A - Beet Sugar Processing
412	FEEDLOTS
	A - All Subcategories Except Ducks
	B - Ducks
418	FERTLIZER MANUFACTURING
	A - Phosphate
426	GLASS MANUFACTURING
	A - Insulation Fiberglass
	B - Sheet Glass Manufacturing
	C - Rolled Glass Manufacturing
	D - Plate Glass Manufacturing
427	ASBESTOS MANUFACTURING
	B - Asbestos Cement Sheet
	C - Asbestos Paper (Starch Binder)
	E - Asbestos Millboard
	F - Asbestos Roofing
	G - Asbestos Floor Tile
446	PAINT FORMULATING
	A - Oil Base Solvent Wash Paint
447	INK FORMULATING
	A - Oil Base Solvent Wash Ink

While the regulations for no-discharge for certain subparts of the Grain Mills, Sugar Processing and Feedlots industrial categories are in effect, these pretreatment standards may be

intended as a control of conventional pollutants only. Such control is appropriate for local limits to prevent interference or pass-through, but there are certain statutory questions to be resolved on the control of conventional pollutants through categorical pretreatment standards. OWEP, the Industrial Technology Division (ITD) and the Office of General Counsel (OGC) are reviewing these regulations and will provide further information at a later date.

For the Fertilizer, Glass, Asbestos, Paint Formulating and Ink Formulating industrial categories, OWEP and OWRS have determined that the no-discharge requirement effectively controls toxic or non-conventional pollution. New sources within these five categories should be directed to adopt pollution control techniques in order to come into compliance with the no-discharge regulations.

For facilities which are included in the subparts listed above and which began construction after the following dates, control authorities should direct that pretreatment standards be adopted.

Fertilizer Manufacturing	December 7, 1973
Glass Manufacturing	August 22, 1973 (Subpart A) October 17, 1973 (Subparts B, C, D)
Asbestos Manufacturing	October 30, 1973
Paint Formulating	February 26, 1975
Ink Formulating	February 26, 1975

3. Standards which regulate non-conventional pollutants

The regulations in the CFR for non-Consent Decree industrial categories regulated for non-conventional pollutants apply to new sources of discharge only. Industrial categories and subparts which are regulated for non-conventional pollutants are presented in the following list:

Part	Category/Subpart	Regulated Pollutant
417	SOAP AND DETERGENT	
	O - Manufacture of Spray Dried Detergents	COD/BOD7, COD
	P - Manufacture of Liquid Detergents	COD/BOD7, COD
	Q - Manufacture of Detergents by Dry Blending	COD/BOD7, COD
	R - Manufacture of Drum Dried Detergents	COD/BOD7, COD

418 FERTILIZER MANUFACTURING

B - Ammonia	Ammonia (as N)
C - Urea	Ammonia (as N) Organic Nitrogen
D - Ammonium Nitrate	Ammonia (as N) Nitrate (as N)
E - Nitric Acid	Ammonia (as N) Nitrate (as N)
F - Ammonium Sulfate ..... Production	Ammonia (as N)
G - Mixed and Blend ..... Fertilizer Production	Ammonia (as N) Nitrate (as N) Total Phosphorous

424 FERROALLOY MANUFACTURING

A - Open Electric Furnaces ..... with Wet Air Pollution Control Devices	Manganese
B - Covered Electric ..... Furnaces with Wet Air Pollution Control Devices	Manganese Phenols
C - Slag Processing	Manganese

426 GLASS MANUFACTURING

E - Float Glass ..... Manufacturing	Phosphorous
G - Automotive Glass ..... Laminating	Phosphorous
K - Television Picture ..... Tube Envelope Manufacturing	Fluoride
L - Incandescent Lamp ..... Envelope Manufacturing	Fluoride
M - Hand Pressed and Blown ..... Glass Manufacturing	Fluoride

428 RUBBER MANUFACTURING

D - Latex Rubber	COD
H - Wet Digestion ..... Reclaimed Rubber	COD
I - Pan, Dry Digestion and ..... Mechanical Reclaimed Rubber	COD

The Soap and Detergent Manufacturing industrial category is covered by a COD/BOD ratio restriction which prohibits the discharge of process wastewater in which the COD/BOD7 ratio exceeds 10.0 and the COD exceeds 0.20 kg/kkg of anhydrous product. All other industrial categories covered by non-conventional pollutant restrictions have a more typically straight-forward limitation imposed upon the specific non-conventional pollutant.

OWEP and OWRS have reviewed the regulations governing the discharge of non-conventional pollutants and consider the control of such discharge to be legally required and environmentally appropriate. IUs covered under these regulations are categorical facilities and are subject to the requirements presented in the CFR.

For facilities which are included in the subparts listed above and which began construction after the following dates, control authorities should direct that new source pretreatment standards for the regulation of non-conventional pollutants be adopted.

Soap and Detergent Mfg	December 26, 1973 (Subpart Q) February 20, 1975 (Subparts O, P, R)
Fertilizer Manufacturing	December 7, 1973 (Subparts A - E) October 7, 1974 (Subparts (F, G)
Ferroalloy Manufacturing	October 18, 1973
Glass Manufacturing	October 17, 1973 (Subparts (E, G) August 21, 1974 (Subparts K, L, M)
Rubber Manufacturing	October 11, 1973 (Subpart D) August 23, 1974 (All other subparts)

4. Standards which regulate conventional pollutants

The regulations in the CFR for non-Consent Decree industrial categories apply to new sources of discharge only. Industrial categories and subparts which are regulated for conventional pollutants are presented in the following list:

Part	Category/Subpart	Regulated Pollutant
426	GLASS MANUFACTURING	
	H - Glass Container Manufacturing	Oil (Mineral)
	K - Television Picture Tube Envelope Manufacturing	Oil (Mineral)
	L - Incandescent Lamp Envelope Manufacturing	Oil (Mineral)
428	RUBBER MANUFACTURING	
	E - Small Sized Molded, Extruded and Fabricated Plants	Oil and Grease
	F - Medium Sized Molded Extruded and Fabricated Plants	Oil and Grease
	G - Large Sized Molded Extruded and Fabricated Plants	Oil and Grease

H - Wet Digestion ..... Oil and Grease
Reclaimed Rubber
I - Pan, Dry Digestion ..... Oil and Grease
and Mechanical
Reclaimed Rubber
J - Latex Dipped, Latex ..... Oil and Grease
Extruded and Latex
Molded Rubber

443 PAVING AND ROOFING MATERIALS

A - Asphalt Emulsion ..... Oil and Grease
B - Asphalt Concrete ..... Oil and Grease
C - Asphalt Roofing ..... Oil and Grease
D - Linoleum and Printed ..... Oil and Grease
Asphalt Felt

458 CARBON BLACK MANUFACTURING

A - Carbon Black Furnace ..... Oil and Grease
Process
B - Carbon Black Thermal ..... Oil and Grease
Process
C - Carbon Black Channel ..... Oil and Grease
Process
D - Carbon Black Lamp ..... Oil and Grease
Process

There are statutory questions to be resolved by the OGC regarding the control of conventional pollutants through categorical pretreatment standards. The Industrial Technology Division and the OGC will review these regulations and provide further information at a later date.

However, if the regulation of a conventional pollutant is being used as a surrogate for a toxic pollutant, then the pretreatment standards for that conventional pollutant should be implemented. This is the case for the regulation of TSS in the Asbestos Manufacturing category, where TSS is being used as a surrogate for asbestos fibers.

Existing and new source pretreatment standards

5. Standards which simply reference the General Pretreatment Regulations found in sections 128 and 403 of the CFR

Appendix I gives a list of industrial categories for which only a general reference to the pretreatment regulations is listed. This Appendix is broken down into two parts. Appendix Ia gives a list of industrial categories which are regulated for existing sources. Appendix Ib gives a list of industrial categories which are regulated for new sources of discharge.

There has been confusion and inconsistencies in identifying whether such industrial users are categorical. For example, in the Canned and Preserved Seafood category, the CFR states, "The

pretreatment standards under section 307(b) of the Act...shall be the standard set forth in 40 CFR Part 128." Such IU's, which have no categorical limits beyond the General Pretreatment Regulations, are not considered categorical users.[1]

These noncategorical users are still subject to the general guidelines outlined in sections 128 and 403. These general guidelines include provisions of prohibited discharge for wastewater which can cause: interference of POTW operation, pass-through of pollutants through the POTW, corrosion of wastewater delivery systems, explosive hazards either at the POTW or in the delivery system, health hazards to sewer workers or workers at the POTW, and sludge contamination. These industrial categories are also subject to local limits and may still be considered significant IU's which require monitoring and reporting by the POTW.

6. No standards

Appendix II gives a listing of industrial categories for which there are no pretreatment standards listed in the CFR. These industrial categories are still subject to the prohibited discharge standards discussed in the previous section.

GUIDANCE FOR IMPLEMENTING THE PRE-CONSENT DECREE CATEGORICAL PRETREATMENT STANDARDS

The following discussion provides guidance to POTWs regarding the implementation of the categorical pretreatment standards in the eight industrial categories highlighted in the report. The standards listed below include those which regulate toxic and non-conventional pollutants as well as those which specify no-discharge of wastewater. For each industrial category the appropriate subparts and their relevant standards are listed, and there is a brief outline of the applicability for each standard as presented in the CFR.

417 SOAP AND DETERGENT MANUFACTURING

Within the Soap and Detergent Manufacturing industrial category, subparts O, P, Q and R are regulated for non-conventional pollutants.

For subparts O, P and R, the proposal date for the regulation was February 20, 1975. For subpart Q, the proposal date for the regulation was December 26, 1973. Facilities which began construction after these dates are subject to the new source

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[1] U.S. EPA Pretreatment Bulletin No. 3, November 6, 1987. p. 5.

regulations and should be informed of the need for compliance with the regulations. For facilities which are non-compliant, an expeditious compliance schedule (in no case greater than three years) should be adopted in an appropriate control mechanism.

Subpart O - Manufacture of Spray Dried Detergents

§417.150 Applicability

The provisions of this subpart are applicable to discharges resulting from all operations associated with the manufacture of spray dried detergents, including but not limited to assembly and storage of raw materials, crutching, spray drying, blending (including tumble spraying of additives) and packaging.

§417.156 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

(a) There shall be no discharge of waste water streams in which both the COD/BOD7 ratio exceeds 10.0 and the COD exceeds 2.4 kg/kkg of anhydrous product.

(b) For waste streams having either a ratio of COD to BOD7 of 10.0 or less or having a COD content of 2.40 kg/kkg of anhydrous product or less, there are no limitations for BOD5, COD, TSS, surfactants, oil and grease or pH.

Subpart P - Manufacture of Liquid Detergents

§417.160 Applicability

The provisions of this subpart are applicable to discharges resulting from all operations associated with the manufacture of liquid detergents, commencing with the blending of ingredients, to and including bottling or packaging of finished products.

§417.166 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

(a) There shall be no discharge of waste water streams in which both the COD/BOD7 ratio exceeds 10.0 and the COD exceeds 1.10 kg/kkg of anhydrous product.

(b) For waste streams having either a ratio of COD to BOD7 of 10.0 or less or having a COD content of 1.10 kg/kkg of anhydrous

product or less, there are no limitations for BOD5, COD, TSS, surfactants, oil and grease or pH.

Subpart Q - Manufacture of Detergents by Dry Blending

§417.170 Applicability

The provisions of this subpart are applicable to discharges resulting from the operations associated with the manufacture of detergents by means of the blending of dry detergents, inlcuding, but not limited to, blending and subsequent packaging.

§417.176 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

(a) There shall be no discharge of waste water streams in which both the COD/BOD7 ratio exceeds 10.0 and the COD exceeds 0.26 kg/kkg of anhydrous product.

(b) For waste streams having either a ratio of COD to BOD7 of 10.0 or less or having a COD content of 0.26 kg/kkg of anhydrous product or less, there are no limitations for BOD5, COD, TSS, surfactants, oil and grease or pH.

Subpart R - Manuafacture of Drum Dried Detergents

§417.180 Applicability

The provisions of this subpart are applicable to discharges resulting from the operation associated with the manufacture of detergents by drum drying, including, but not limited to, drying of formulations on heated drums or rollers, conversion of dried detergents to powders or flakes, and packaging of finished products.

§417.186 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

(a) There shall be no discharge of waste water streams in which both the COD/BOD7 ratio exceeds 10.0 and the COD exceeds 0.20 kg/kkg of anhydrous product.

(b) For waste streams having either a ratio of COD to BOD7 of 10.0 or less or having a COD content of 0.20 kg/kkg of anhydrous product or less, there are no limitations for BOD5, COD, TSS, surfactants, oil and grease or pH.

B FERTILIZER MANUFACTURING

Within the Fertilizer Manufacturing industrial category, subpart A is regulated for no discharge of process wastewater, and subparts B, C, D, E, F and G are regulated for non-conventional pollutants.

The proposal date for the regulation of subparts A, B, C, D, E, F, and G of the Fertilizer Manufacturing industrial category was December 7, 1973. Facilities which began construction after this date are subject to the new source regulations and should be informed of the need for compliance with the regulations. For facilities which are non-compliant, an expeditious compliance schedule (in no case greater than three years) should be adopted in an appropriate control mechanism.

Subpart A - Phosphate

§418.10 Applicability

The provisions of this subpart are applicable to discharges resulting from the manufacture of sulfuric acid by sulfur burning, wet process phospohoric acid, normal superphosphate, triple superphosphate and ammonium phosphate.

§418.16 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

The pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works shall be as follows: There shall be no discharge of process waste water pollutants.

Subpart B - Ammonia

§418.20 Applicability

The provisions of this subpart are applicable to discharges resulting from the manufacture of ammonia. Discharges attributable to shipping losses and cooling tower blowdown are excluded.

§418.26 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Ammonia (as N)	0.11	0.055

[Note: Metric units, kg/kkg of product; English units, lb/1,000lb of product]

Subpart C - Urea

§418.30 Applicability

The provisions of this subpart are applicable to the manufacture of urea. Discharges attributable to shipping losses and precipitation runoff from outside the battery limits of the urea manufacturing operations, and cooling tower blowdown are excluded.

§418.36 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

The following limitations constitute the maximum permissible discharge for urea manufacturing operations in which urea is produced as a solution product.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Ammonia (as N)	0.53	0.27

[Note: Metric units, kg/kkg of product; English units, lb/1,000lb of product]

The following limitations constitute the maximum permissible discharge for urea manufacturing operations in which urea is prilled or granulated.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Ammonia (as N)	0.53	0.27

[Note: Metric units, kg/kkg of product; English units, lb/1,000lb of product]

Subpart D - Ammonium Nitrate

§418.40 Applicability

The provisions of this subpart are applicable to discharges resulting from the manufacture of ammonium nitrate. Discharges attributable to shipping losses, precipitation runoff from outside the battery limits of the ammonium nitrate manufacturing operations, cooling tower blowdown, and discharges from plants which totally condense their neutralizer overheads are excluded.

§418.46 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Ammonia (as N)	0.08	0.04

[Note: Metric units, kg/kkg of product; English units, lb/1,000lb of product]

Subpart E - Nitric Acid

§418.50 Applicability

The provisions of this subpart are applicable to discharges resulting from production of nitric acid in concentrations up to 68 percent. Discharges from shipping losses are excluded.

§418.56 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

The following limitations constitute the maximum permissible discharge from nitric acid production in which all of the raw ammonia is in the gaseous form.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Ammonia (as N)	0.0045	0.00045

[Note: Metric units, kg/kkg of product; English units, lb/1,000lb of product]

The following limitations constitute the maximum permissible discharge from nitric acid production in which all of the raw ammonia is in the shipped liquid form.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Ammonia (as N)	0.08	0.008

[Note: Metric units, kg/kkg of product; English units, lb/1,000lb of product]

Subpart F - Ammonium Sulfate Production

§ Applicability

The provisions of this subpart are applicable to discharges resulting from the production of ammonium sulfate by the synthetic process and by coke oven by-product recovery. Thge provisions of this subpart do not apply to ammonium sulfate produced as a by-product of caprolactam production.

§ Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be

discharged to a POTW by a new source.

Effluent characteristic	Pretreatment Standard
Ammonia (as N)	30 mg/l

Subpart G - Mixed and Blend Fertilizer Production

§418.70 Applicability

The provisions of this subpart are applicable to discharges resulting from the production of mixed fertilizer and blend fertilizer.

§418.76 Pretreatment standard for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Pretreatment Standard
Ammonia (as N)	30 mg/l
Nitrate (as N)	30 mg/l
Total Phosphorous (as P)	30 mg/l

424 FERROALLOY MANUFACTURING

Within the Ferroalloy Manufacturing industrial category, subparts A, B, and C are regulated for toxic substances as well as for non-conventional pollutants.

The proposal date for the regulation of supbarts A, B, and C of the Ferroalloy Manfacturing industrial category was October 18, 1973. Facilities which began construction after this date are subject to the new source regulations and should be informed of the need for compliance with the regulations. For facilities which are non-compliant, an expeditious compliance schedule (in no case greater than three years) should be adopted in an appropriate control mechanism.

Subpart A - Open Electric Furnaces with Wet Air Pollution Control Devices

§424.10 Applicability

The provisions of this subpart are applicable to discharges resulting from the smelting of ferroalloys in open electric furnaces with wet air pollution control devices. This subpart includes those electric furnaces of such construction or configuration that the furnace off-gases are burned above the furnace charge level by air drawn into the system. After combustion the gases are cleaned in a wet air pollution control device, such as a scrubber, an electrostatic precipitator with water or other aqueous sprays, etc. The provisions of this subpart are not applicable to noncontact cooling water or to those electric furnacès covered, closed, sealed, or semi-covered and in which the furnace off-gases are not burned prior to collection (regulated in Subpart B of this part).

§424.16 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Chromium total	0.0008	0.004
Chromium VI	0.00008	0.00004
Manganese total	0.008	0.0039

[Note: Metric units, kg/Mwh; English units, lb/Mwh]

Subpart B - Covered Electric Furnaces and other Smelting Operations with Wet Air Pollution Control Devices

§424.20 Applicability

The provisions of this subpart are applicable to dicharges resulting from the smelting of ferroalloys in covered electric furnaces or other smelting operations, not elsewhere included in this part, with wet air pollution control devices. This subcategory includes those elctric furnaces of such construction or configuration (known as covered, closed, sealed, semi-covered or semi-closed furnaces) that the furnace off-gases are not burned prior to collection and cleaning, and which off-gases are

eaned after collection in a wet air pollution control device ch as a scrubber, 'wet' baghouse, etc. This subcategory also includes those non-electric furnace smelting operations such as exothermic (ie., aluminothermic or silicothermic) smelting, ferromangenese refining, etc., where these are controlled for air pollution by wet air pollution control devices. This subcategory does not include noncontact cooling water or those furnaces which utilize dry dust collection techniques, such as dry baghouses.

§424.26 Pretreatment standard for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Chromium total	0.001	0.0005
Chromium VI	0.0001	0.00005
Manganese total	0.011	0.005
Cyanide total	0.0005	0.0003
Phenols	0.0004	0.0002

[Note: Metric units, kg/Mwh; English units, lb/Mwh]

Subpart C - Slag Processing

§424.30 Applicability

The provisions of this subpart are applicable to discharges resulting from slag processing, wherein: (a) The residual metallic values in the furnace slag are recovered via concentration for return to the furnace, or (b) the slag is "shotted" for other further use.

§424.36 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
	Metric Units (kg/kkg processed)	
Chromium total	0.0054	0.0027
Manganese total	0.054	0.027
	English Units (lb/ton processed)	
Chromium total	0.011	0.0054
Manganese total	0.108	0.054

426 GLASS MANUFACTURING

Within the Glass Manufacturing industrial category, subparts A, B, C, and D are regulated for no discharge of process wastewater. Subparts E, G, K, L, and M are regulated for non-conventional pollutants.

For subpart A, the proposal date for the regulation was August 22, 1973. For subparts B, C, D, E, and G, the proposal date for the regulation was October 17, 1973. For subparts K, L, and M, the proposal date for the regulation was August 21, 1974. Facilities which began construction after these dates are subject to the new source regulations and should be informed of the need for compliance with the regulations. For facilities which are non-compliant, an expeditious compliance schedule (in no case greater than three years) should be adopted in an appropriate control mechanism.

Subpart A - Insulation Fiberglass

§426.10 Applicability

The provisions of this subpart are applicable to discharges resulting from the production of insulation fiberglass in which molten glass is either directly or indirectly made, continuously fiberized and chemically bonded into a wool-like material.

§426.16 Pretreatment standards for new sources

(a) Applicability. The provisions of this section shall apply to discharges of process waste water pollutants into

publicly owned treatment works except for that portion of the waste stream which constitutes cullet water.

The following pretreatment standards establish the quantity or quality of pollutants or pollutant prcperties which may be discharged to a POTW by a new source: There shall be no discharge of process wastewater pollutants.

Subpart B - Sheet Glass Manufacturing

§426.20 Applicability

The provisions of this subpart are applicable to discharges resulting from the process in which several mineral ingredients (sand, soda, ash, limestone, dolomite, cullen and other ingredients) are mixed, melted in a furnace, and drawn vertically from a melting tank to form sheet glass.

§426.26 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source: There shall be no discharge of process wastewater pollutants.

Subpart C - Rolled Glass Manufacturing

§426.30 Applicability

The provisions of this subpart are applicable to discharges resulting from the process in which several mineral ingredients (sand, soda, ash, limestone, dolomite, cullen and other ingredients) are mixed, melted in a furnace, and cooled by rollers to form rolled glass.

§426.34 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source: There shall be no discharge of process wastewater pollutants.

Subpart D - Plate Glass Manufacturing

§426.40 Applicability

The provisions of this subpart are applicable to discharges resulting from the process in which several mineral ingredients (sand, soda, ash, limestone, dolomite, cullen and other ingredients) are mixed, melted in a furnace, pressed between rollers, and finally ground and polished to form plate glass.

§426.46 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source: There shall be no discharge of process wastewater pollutants.

Subpart E - Float Glass Manufacturing

§426.50 Applicability

The provisions of this subpart are applicable to discharges resulting from the process in which several mineral ingredients (sand, soda, ash, limestone, dolomite, cullen and other ingredients) are mixed, melted in a furnace, and floated on a molten tin bath to produce float glass.

§426.56 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
	Metric Units (kg/kkg of product)	
Phosphorous	0.05	0.05
	English Units (lb/ton of product)	
Phosphorous	0.0001	0.0001

Subpart G - Automotive Glass Laminating

§426.70 Applicability

The provisions of this subpart are applicable to discharges resulting from the processes which laminate a plastic sheet between two layers of glass, and which prepare the glass for laminating such as cutting, bending and washing, to produce automotive windshields.

§426.76 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
	Metric Units (g/sq m of product)	
Phosphorous	0.30	0.30
	English Units (lb/1000 sq ft of product)	
Phosphorous	0.06	0.06

Subpart K - Television Picture Tube Envelope Manufacturing

§426.110 Applicability

The provisions of this subpart are applicable to discharges resulting from the process by which raw materials are melted in a furnace and processed into television picture tube envelopes.

§426.116 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
	Metric Units (g/kkg of furnace pull)	
Fluoride	120.0	60.0

	English Units (lb/1000 lb of furnace pull)*	
Fluoride	0.12	0.06

Subpart L - Incandescent Lamp Envelope Manufacturing

§426.120 Applicability

The provisions of this subpart are applicable to discharges resulting from the processes by which (a) raw materials are melted in a furnace and mechanically processed into incandescent lamp envelopes or (b) incandescent lamp envelopes are etched with hydrofluoric acid to produce frosted envelopes.

§426.126 Preatreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
	Metric Units (g/kkg of product frosted)	
Fluoride	104.0	52.0
	English Units (lb/1000 lb of product frosted)	
Fluoride	0.104	0.052

Subpart M - Hand Pressed and Blown Glass Manufacturing

§426.130 Applicability

The provisions of this subpart are applicable to discharges resulting from the process by which raw materials are melted in a furnace and processed by hand into pressed or blown glassware. This includes those plants which: (a) Produce leaded glass and employ hydrofluoric acid finishing techniques, (b) produce non-

leaded glass and employ hydrofluoric acid finishing techniques, or (c) produce leaded or non-leaded glass and do not employ hydrofluoric acid finishing techniques.

§426.136 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations (mg/l)	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
(a):		
Fluoride	26.0	13.0
(b):		
Fluoride	26.0	13.0

427 ASBESTOS MANUFACTURING

Within the Asbestos Manufacturing industrial category, subparts A and D are regulated for toxic pollutants (through the use of a surrogate), and subparts B, C, E, F, and G are regulated for no discharge of process waste water.

The proposal date for the regulations governing the Asbestos Manufacturing industrial category was October 30, 1973. Facilities which began construction after this date are subject to the new source regulations and should be informed of the need for compliance with the regulations. For facilities which are non-compliant, an expeditious compliance schedule (in no case greater than three years) should be adopted in an appropriate control mechanism.

Subpart A - Asbestos Cement Pipe

§427.20 Applicability

The provisions of this subpart are applicable to discharges resulting from the process in which asbestos, Portland cement, silica, and other ingredients are used in the manufacturing of asbestos-cement pipe.

§427.16 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
	Metric Units (kg/kkg of product)	
TSS*	0.57	0.19
	English Units (lb/ton of product)	
TSS*	1.14	0.38

* Used as a surrogate for asbestos fibers.

Subpart B - Asbestos-Cement Sheet

§427.20 Applicability

The provisions of this subpart are applicable to discharges resulting from the process in which asbestos, Portland cement, silica, and other ingredients are used in the manufacturing of asbestos-cement sheets. Discharges resulting from manufacture of asbestos cement sheet laboratory tops are specifically excluded from the provisions of this subpart.

§427.26 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source: There shall be no discharge of process waste water.

Subpart C - Asbestos Paper (Starch Binder)

§427.30 Applicability

The provisions of this subpart are applicable to discharges resulting from the process in which asbestos, starch binders, and other ingredients are used in the manufacture of asbestos paper (starch binder).

§427.36 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source: There shall be no discharge of process waste water.

Subpart D - Asbestos Paper (Elastomeric Binder)

§427.40 Applicability

The provisions of this subpart are applicable to discharges resulting from the process in which asbestos, elastomeric binder, and other ingredients are used in the manufacture of asbestos paper (elastomeric binder).

§427.46 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
	Metric Units (kg/kkg of product)	
TSS*	0.55	0.35
	English Units (lb/ton of product)	
TSS*	1.10	0.70

* Used as a surrogate for asbestos fibers.

Subpart E - Asbestos Millboard

§427.50 Applicability

The provisions of this subpart are applicable to discharges resulting from the process in which asbestos in combination with various other materials such as cement, starch, clay, lime, and mineral wool are used in the maufacture of asbestos millboard.

§427.26 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source: There shall be no discharge of process waste water.

Subpart F - Asbestos Roofing

§427.60 Applicability

The provisions of this subpart are applicable to discharges resulting from the process in which asbestos paper is saturated with asphalt or coal tar with the subsequent application of various surface treatments to produce asbestos roofing products.

§427.26 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source: There shall be no discharge of process waste water.

Subpart G - Asbestos Floor Tile

§427.70 Applicability

The provisions of this subpart are applicable to discharges resulting from the process in which asbestos, Polyvinyl chloride resin, chemical stabilizers, limestone, and other fillers are used in the manufacturing of asbestos floor tile.

§427.26 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source: There shall be no discharge of process waste water.

428 RUBBER MANUFACTURING

Within the Rubber Manufacturing industrial category, subparts E, F, G, J, and K are regulated for toxic pollutants, and subparts D, H, and I are regulated for non-conventional pollutants.

For subpart D the proposal date for the regulation was October 11, 1973. For all other relevant subparts, the proposal date for the regulation was August 23, 1974. Facilities which began construction after these dates are subject to the new

source regulations and should be informed of the need for compliance with the regulations. For facilities which are non-compliant, an expeditious compliance schedule (in no case greater than three years) should be adopted in an appropriate control mechanism.

Subpart D - Latex Rubber

§428.40 Applicability

The provisions of this subpart are applicable to discharges resulting from the manufacture of latex rubber.

§428.46 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
	Metric Units (kg/kkg of product)	
COD	10.27	6.85

Subpart E - Small-Sized General Molded, Extruded, and Fabricated Rubber Plants

§428.50 Applicability

The provisions of this subpart are applicable to discharges resulting from the production of molded, extruded, and fabricated rubber products, foam rubber backing, rubber-cement dipped goods, and retreaded tires by small-sized plants. Specifically excluded from the provisions of this subpart are the discharges resulting from the production of latex-based products, tires and inner tubes, and those discharges from textile plants subject to the provisions of Part 410.

§428.56 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be

discharged to a POTW by a new source attributable to lead sheathed hose production.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Lead	0.0017	0.0007

[Note: Metric Units, kg/kkg of raw material; English Units, lb/1000lb of raw material]

Subpart F - Medium-Sized General Molded, Extruded, and Fabricated Rubber Plants

§428.60 Applicability

The provisions of this subpart are applicable to discharges resulting from the production of molded, extruded, and fabricated rubber products, foam rubber backing, rubber-cement dipped goods, and retreaded tires by medium-sized plants. Specifically excluded from the provisions of this subpart are the discharges resulting from the production of latex-based products, tires and inner tubes, and those discharges from textile plants subject to the provisions of Part 410.

§428.66 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source attributable to lead sheathed hose production.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Lead	0.0017	0.0007

[Note: Metric Units, kg/kkg of raw material; English Units, lb/1000lb\ of raw material]

Subpart G- Large-Sized General Molded, Extruded, and Fabricated Rubber Plants

§428.70 Applicability

The provisions of this subpart are applicable to discharges resulting from the production of molded, extruded, and fabricated rubber products, foam rubber backing, rubber-cement dipped goods, and retreaded tires by large-sized plants. Specifically excluded from the provisions of this subpart are the discharges resulting from the production of latex-based products, tires and inner tubes, and those discharges from textile plants subject to the provisions of Part 410.

§428.76 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source attributable to lead sheathed hose production.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Lead	0.0017	0.0007

[Note: Metric Units, kg/kkg of raw material; English Units, lb/1000lb of raw material]

Subpart H - Wet Digestion Reclaimed Rubber

§428.80 Applicability

The provisions of this subpart are applicable to discharges resulting from the production of reclaimed rubber by use of the wet digestion process.

§428.86 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
COD	14.7	6.11

[Note: Metric Units, kg/kkg of product; English Units, lb/1000lb of product]

Subpart I - Pan, Dry Digestion, and Mechanical Reclaimed Rubber

§428.90 Applicability

The provisions of this subpart are applicable to discharges resulting from the production of reclaimed rubber except when produced by the wet digestion process.

§428.96 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
COD	6.7	2.8

[Note: Metric Units, kg/kkg of product; English Units, lb/1000lb of product]

Subpart J - Latex-Dipped, Latex-Molded, and Latex-Extruded Rubber Plants

§428.100 Applicability

The provisions of this subpart are applicable to discharges resulting from the production of latex-dipped, latex-molded, and latex-extruded products. Specifically excluded from the provisions of this subpart are those discharges from textile plants subject to the provisions of Part 410.

§428.106 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source attributable to plants employing the chromic acid form-cleaning operation.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Lead	0.0017	0.0007

[Note: Metric Units, kg/kkg of raw material; English Units, lb/1000lb of raw material]

Subpart K - Latex Foam

§428.110 Applicability

The provisions of this subpart are applicable to discharges resulting from the manufacture of latex foam except for those discharges from textile plants subject to the provisions of Part 410.

§428.116 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source.

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed:
Zinc	0.058	0.024

[Note: Metric Units, kg/kkg of raw material; English Units, lb/1000lb of raw material]

446 PAINT FORMULATING

Within the Paint Formulating industrial category, there is only one subpart. Subpart A is regulated for no discharge of process waste water to a POTW.

The proposal date for the regulation for subpart A was February 26, 1975. Facilities which began construction after this date are subject to the new source regulations and should be informed of the need for compliance with the regulations. For facilities which are non-compliant, an expeditious compliance schedule (in no case greater than three years) should be adopted in an appropriate control mechanism.

Subpart A - Oil-Base Solvent Wash Paint

§446.10 Applicability

The provisions of this subpart are applicable to discharges resulting from the production of oil base paint where the tank cleaning is performed using solvents. When a plant is subject to effluent limitations covering more than one subcategory, the discharge limitations shall be the aggregate of the limitations applicable to the total production covered in each subcategory.

§446.16 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source: There shall be no discharge of process waste water pollutants to a publicly owned treatment works.

447 INK FORMULATING

Within the Ink Formulating industrial category there is only one subpart. Subpart A is regulated for no discharge of process waste water to a POTW.

For subpart A, the proposal date for the regulation was February 26, 1975. Facilities which began construction after this date are subject to the new source regulations and should be informed of the need for compliance with the regulations. For facilities which are non-compliant, an expeditious compliance schedule (in no case greater than three years) should be adopted in an appropriate control mechanism.

Subpart A - Oil-Base Solvent Wash Ink

§447.10 Applicability

The provisions of this subpart are applicable to discharges resulting from the production of oil base ink where the tank washing system uses solvents. When a plant is subject to effluent limitations covering more than one subcategory, the discharge limitation shall be the aggregate of the limitations applicable to the total discharge covered in each subcategory.

§447.16 Pretreatment standards for new sources

The following pretreatment standards establish the quantity or quality of pollutants or pollutant properties which may be discharged to a POTW by a new source: There shall be no discharge of process waste water pollutants to a POTW.

APPENDIX IA

Pre-Consent Decree Categorical Pretreatment Standards
Existing Source Pretreatment Standards - Ref. 128 or 403

Part	Category	Subpart
405	DAIRY PRODUCTS	A - Receiving Stations B - Fluid Products C - Cultured Products D - Butter E - Cottage Cheese and Cultured Cream Cheese F - Natural and Processed Cheese G - Fluid Mix for Ice Cream and Frozen Desserts H - Ice Cream, Frozen Desserts and Novelties I - Condensed Milk J - Dry Milk K - Condensed Whey L - Dry Whey
406	GRAIN MILLS	A - Corn Wet Milling B - Corn Dry Milling C - Normal Wheat Flour Milling D - Bulgur Wheat Flour Milling E - Normal Rice Milling F - Parboiled Rice Processing
407	CANNED AND PRESERVED FRUITS AND VEGETABLES	A - Apple Juice B - Apple Products C - Citrus Products D - Frozen Potato Products E - Dehydrated Potato Products F - Canned and Preserved Fruits G - Canned and Preserved Vegetables H - Canned and Miscellaneous Specialties
408	CANNED AND PRESERVED SEAFOOD	A - Farm-Raised Catfish B - Conventional Blue Crab Processing C - Mechanized Blue Crab Processing D - Non-Remote Alskan Crab

408 CANNED AND PRESERVED SEAFOOD

Meat Processing
E - Remote Alskan Crab Meat Processing
F - Non-Remote Alaskan Crab Processing
G - Remote Alaskan Crab Processing
H - Dungeness and Tanner Crab Processing - Contiguous States
I - Non-Remote Alaskan Shrimp Processing
J - Remote Alaskan Shrimp Processing
K - Northern Shrimp Processing
L - Southern Non-Breaded Shrimp
M - Breaded Shrimp Processing
N - Tuna Processing
O - Fish Meal Processing
P - Alaskan Hand-Butchered Salmon Processing
Q - Alaskan Mechanized Salmon Processing
R - West Coast Hand-Butchered Salmon Processing
S - West Coast Mechanized Salmon Processing
T - Alaskan Bottom Fish Processing
U - Non-Alaskan Conv. Bottom Fish Processing
V - Non-Alaskan Mechanized Bottom Fish Processing
W - Hand-Shucked Clam Processing
X - Mechanized Clam Processing
Y - Pacific Coast Hand-Shucked Oyster Processing
Z - Atlantic/Gulf Coast Hand-Shucked Oyster Processing
AA - Steamed and Canned Oyster Processing
AB - Sardine Processing
AC - Alaskan Scallop Processing
AD - Non-Alaskan Scallop Processing
AE - Alaskan Herring Fillet Processing
AF - Non-Alaskan Herring Fillet Processing
AG - Abalone Processing

409	SUGAR PROCESSING	A - Beet Sugar Processing B - Crystalline Cane Sugar Refining C - Liquid Cane Sugar Refining
410	TEXTILE MILLS	A - Wool Scouring B - Wool Finishing C - Low Water Use Processing D - Woven Fabric Finishing E - Knit Fabric Finishing F - Carpet Finishing G - Stock and Yarn Finishing H - Nonwoven Manufacturing I - Felted Fabric Processing
411	CEMENT MANUFACTURING	A - Nonleaching B - Leaching C - Materials Storage Piles Runoff
412	FEEDLOTS	A - All Subcategories Except Ducks B - Ducks
417	SOAP AND DETERGENT MANUFACTURING	A - Soap Manufacturing By Batch Kettle B - Fatty Acid Manufacturing by Fat Splitting C - Soap Manufacturing - Fatty Acid Neutralization D - Glycerine Concentration E - Glycerine Distillation F - Manufacture of Soap Flakes and Powders G - Manufacture of Bar Soaps H - Manufacture of Liquid Soaps I - Oleum Sulfonation and Sulfation J - Air-SO3 Sulfation and Sulfonation K - SO3 Solvent and Vacuum Sulfonation L - Sulfamic Acid Sulfation M - Chlorosulfonic Acid Sulfation N - Neutralization - Sulfuric Acid Esters/Sulfonic Acids S - Manufacture of Detergent Bars and Cakes
426	GLASS MANUFACTURING	B - Sheet Glass Manufacturing C - Rolled Glass Manufacturing D - Plate Glass Manufacturing

426 GLASS MANUFACTURING	F - Automotive Glass Tempering
427 ASBESTOS MANUFACTURING	D - Asbestos Paper (Elastomeric Binder) E - Asbestos Millboard F - Asbestos Roofing G - Asbestos Floor Tile
432 MEAT PRODUCTS	A - Simple Slaughterhouse B - Complex Slaughterhouse C - Low-Processing Packinghouse D - High-Processing Packinghouse
463 PLASTICS MOLDING AND FORMING	A - Contact Cooling and Heating Water B - Cleaning Water C - Finishing Water

APPENDIX IB

Pre-Consent Decree Categorical Pretreatment Standards
New Source Standards - Ref. 128 or 403

Part	Category	Subpart
406	GRAIN MILLS	A - Corn Wet Milling G - Animal Feed H - Hot Cereal I - Ready-To-Eat Cereal J - Wheat Starch and Gluten
407	CANNED AND PRESERVED FRUITS AND VEGETABLES	F - Canned and Preserved Fruits G - Canned and Preserved Vegetables H - Canned and Miscellaneous Specialties
408	CANNED AND PRESERVED SEAFOOD	A - Farm-Raised Catfish B - Conventional Blue Crab Processing C - Mechanized Blue Crab Processing D - Non-Remote Alskan Crab Meat Processing E - Remote Alskan Crab Meat Processing F - Non-Remote Alaskan Crab Processing G - Remote Alaskan Crab Processing H - Dungeness and Tanner Crab Processing - Contiguous States I - Non-Remote Alaskan Shrimp Processing J - Remote Alaskan Shrimp Processing K - Northern Shrimp Processing L - Southern Non-Breaded Shrimp M - Breaded Shrimp Processing N - Tuna Processing O - Fish Meal Processing P - Alaskan Hand-Butchered Salmon Processing Q - Alaskan Mechanized Salmon Processing R - West Coast Hand-Butchered

408	CANNED AND PRESERVED SEAFOOD	Salmon Processing S - West Coast Mechanized Salmon Processing T - Alaskan Bottom Fish Processing U - Non-Alaskan Conv. Bottom Fish Processing V - Non-Alaskan Mechanized Bottom Fish Processing W - Hand-Shucked Clam Processing X - Mechanized Clam Processing Y - Pacific Coast Hand-Shucked Oyster Processing Z - Atlantic/Gulf Coast Hand-Shucked Oyster Processing AA - Steamed and Canned Oyster Processing AB - Sardine Processing AC - Alaskan Scallop Processing AD - Non-Alaskan Scallop Processing AE - Alaskan Herring Fillet Processing AF - Non-Alaskan Herring Fillet Processing AG - Abalone Processing
410	TEXTILE MILLS	A - Wool Scouring B - Wool Finishing C - Low Water Use Processing D - Woven Fabric Finishing E - Knit Fabric Finishing F - Carpet Finishing G - Stock and Yarn Finishing H - Nonwoven Manufacturing I - Felted Fabric Processing
417	SOAP AND DETERGENT MANUFACTURING	A - Soap Manufacturing By Batch Kettle B - Fatty Acid Manufacturing by Fat Splitting C - Soap Manufacturing - Fatty Acid Neutralization D - Glycerine Concentration E - Glycerine Distillation F - Manufacture of Soap Flakes and Powders G - Manufacture of Bar Soaps H - Manufacture of Liquid Soaps I - Oleum Sulfonation and Sulfation

417	SOAP AND DETERGENT MANUFACTURING	J - Air-SO3 Sulfation and Sulfonation K - SO3 Solvent and Vacuum Sulfonation L - Sulfamic Acid Sulfation M - Chlorosulfonic Acid Sulfation N - Neutralization - Sulfuric Acid Esters/Sulfonic Acids S - Manufacture of Detergent Bars and Cakes
426	GLASS MANUFACTURING	F - Automotive Glass Tempering J - Glass Tubing (Danner) Manufacturing
427	ASBESTOS MANUFACTURING	A - Asbestos-Cement Pipe D - Asbestos Paper (Elastomeric Binder) H - Coating or Finishing of Asbestos Textiles I - Solvent Recovery J - Vapor Absorption K - Wet Dust Collection
428	RUBBER MANUFACTURING	A - Tire and Inner Tube Plants
432	MEAT PRODUCTS	A - Simple Slaughterhouse B - Complex Slaughterhouse C - Low-Processing Packinghouse D - High-Processing Packinghouse E - Small Processor F - Meat Cutter G - Sausage and Luncheon Meats Processor H - Ham Processor I - Canned Meats Processor J - Renderer
463	PLASTICS MOLDING AND FORMING	A - Contact Cooling and Heating Water B - Cleaning Water C - Finishing Water

APPENDIX II

Pre-Consent Decree Categorical Pretreatment Standards
Existing and New Source Standards - No listing

Part	Category	Subpart
409	SUGAR PROCESSING	D - Louisiana Raw Cane Sugar Processing E - Florida and Texas Raw Cane Sugar Processing F - Hilo-Hamakua Raw Cane Sugar Processing G - Hawaiian Raw Cane Sugar Processing H - Puerto Rico Raw Cane Sugar Processing
422	PHOSPHATE MANUFACTURING	A - Phosphorous Production B - Phosphorous Consuming C - Phosphate D - Defluorinated Phosphate Rock E - Defluorinated Phosphoric Acid F - Sodium Phosphates
424	FERROALLOY MANUFACTURING	D - Covered Calcium Carbide Furnaces w/ Wet APC Devices E - Other Calcium Carbide Furnaces F - Electrolytic Manganese Products G - Electrolytic Chromium
428	RUBBER MANUFACTURING	B - Emulsion Crump Rubber C - Solution Crump Rubber
434	COAL MINING	A - General Provisions and Definitions B - Coal Prep Plants & Coal Prep Plant Assoc. Areas C - Acid or Ferruginous Mine Drainage D - Alkaline Mine Drainage E - Post-Mining Areas
435	OIL AND GAS EXTRACTION	A - Offshore C - Onshore

435	OIL AND GAS EXTRACTION	D - Coastal E - Agricultural and Wildlife Water Use F - Stripper
436	MINERAL MINING AND PROCESSING	A - Dimension Stone (Reserved) B - Crushed Stone C - Construction Sand and Gravel D - Industrial Sand E - Gypsum F - Asphaltic Mineral G - Asbestos and Wollestonite J - Barite K - Fluorspar L - Salines From Brine Lakes M - Borax N - Potash O - Sodium Sulfate R - Phosphate Rock S - Frasch Sulfur V - Bentonite W - Magnesite X - Diatomite Y - Jade Z - Novaculite AF - Tripoli AL - Graphite
	ORE MINING AND DRESSING	A - Iron Ore B - Aluminum Ore C - Uranium, Radium and Vanadium Ores D - Mercury Ore E - Titanium Ore F - Tungsten Ore G - Nickel Ore H - Vanadium Ore (Mined alone and not as a byproduct) I - Antimony Ore J - Copper, Lead, Zinc, Gold, Silver and Molybdenum Ores K - Platinum Ores
454	GUM AND WOOD CHEMICALS MANUFACTURING	A - Char and Charcoal Briquets B - Gum Rosing and Turpentine C - Wood Rosing, Turpentine and Pine Oil D - Tall Oil Rosin, Pitch and Fatty Acids E - Essential Oils F - Rosin-Based Derivatives
	PESTICIDE	A - Organic Pesticide Chemicals Manufacturing

455	PESTICIDE	B - Metallo-Organic Pesticide Chemicals Manufacturing C - Pesticide Chemicals Formulating and Packaging
457	EXPLOSIVES MANUFACTURING	A - Manufacture of Explosives C - Explosives Load, Assemble and Pack Plants
459	PHOTOGRAPHIC	A - Photographic Processing
460	HOSPITAL	A - Hospital

Categorical Pretreatment Standards

Summaries

January 1989

Categorical Determinations

Introduction

The ability to make categorical determinations for industrial users is a vital skill for State staff with pretreatment responsibilities. Staff are called upon to make formal determinations in response to 40 CFR 403.6(a) category determination requests. In addition, knowledge of categorical regulations is required to maintain adequate oversite of local programs. Staff must be able to provide technical assistance to POTWs with regard to making categorical determinations, and will need to assess the POTW's ability to correctly apply categorical standards in the course of performing PCIs and Audits.

Information Needs

In order to make a proper category determination, it is necessary to have adequate information on the facility in question. While information needs vary with the different categories, the following is a list of items most useful:

Product descriptions:

Many categorical regulations are applicable to facilities based upon products (eg. Battery Manufacturing, Electrical and Electronic Components, Inorganic Chemicals, Pharmacenticals, Organic Chemicals, etc.) Where intermediates are produced, the next stage in the process may effect the category to which the intermediate is subject. It is important to know whether the subsequent operations are performed on site or offsite (eg. Plastics molding and Forming of crude intermediates by plastic resins manufacturers is regulated under OCPSF if further processed off-site, and under Plastics Molding and Forming if further processed on-site.)

Process Description:

Many categorical regulation are based largely upon the processes performed by the facility (eg. Aluminum Forming, Coil Coating, Copper Forming, Electroplating, Metal Finishing, Petroleum Refining, Leather Tanning and Finishing, etc.) It is important to know all the "ancillary" operations performed as well as "core" operations. "Dry operations may affect the determination as well as "wet" operations (e.g. Facilities performing one of the six "core" operations in the metal finishing category are subject to this regulation for any discharge from the 40 metal finishing operations, even if there is no discharge from the core operation). Some processes may be regulated under more than one category. In these cases the determination will be based on other factors such as preceding/subsequent operations, other processes performed on site, products, etc. (eg, Electroplating vs. Metal Finishing, Nonferrous metal forming vs Metal Finishing, etc.)

Description of Raw Materials or Basis Materials:

Some determinations are influenced by raw materials (eg. nonferrous metal forming vs Aluminum forming) or basis material being processed (eg. Coil Coating Subcategories).

Age of Facility:

The age of the facility will determine whether a source is "new" or "existing" (see 53 FR 40610-403.(k)). In some cases this will determine categorization (eg. electroplating vs metal finishing for "job shops").

SIC Codes:

SIC codes may be useful in some cases. In most cases SIC Codes are not a major determining factor (the notable exception being OCPSF).

References

The primary references for making categorical determinations are the regulations themselves as published in the Federal Register and compiled annually in the Code of Federal Regulations, 40 CFR Parts 400-424 and 425-699.

The following is a list of other helpful references:

- Development Documents

- Guidance Documents
  - Electroplating and Metal Finishing
  - Pulp, Paper and Paperboard
  - Iron and Steel
  - Leather Tanning and Finishing
  - Battery Manufacturing

- Categorical Summaries
  - Oct 1988 - USEPA
  - Jan 1989 - Region V

Questions may be directed to:

- USEPA Headquarters Experts (See development documents)
- Region V (Rankin/Swenson)
- MDNR Permits staff

Categorical Pretreatment Standards

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Summary of Common Metals Operations and Applicable Regulations	

Aluminum Forming 40 CFR 467

Dates

Proposed Rule:	November 27, 1982
Final Rule:	October 24, 1983
Effective Date:	December 7, 1983
Compliance Dates:	
PSES	October 24, 1986
PSNS	Commencement of Discharge

Applicability

- Applies to forming of aluminum and aluminum alloys

- Covers forming operations such as
  - rolling
  - drawing
  - extruding
  - forging

- Covers related processes integral to aluminum forming, such as:
  - heat treatment
  - casting (supercedes metal molding and casting, 40 CFR 464)
  - Surface treatment (supercedes Electroplating and Metal Finishing, 40 CFR 413 and 433)

- Aluminum powders are covered under 40 CFR 471

Subcategories	SIC Codes
A. Rolling with Neat Oils	3353, 3355
B. Rolling with Emulsions	3353, 3355
C. Extrusion	3354
D. Forging	3463
E. Drawing with Neat Oils	3354, 3355
F. Drawing with Emulsions or Soaps	3354, 3355

Effluents Limits

Subcategories have limits for core and ancillary processes. Production-based limits are applied using the "building block" approach. Regulated pollutants include chromium, cyanide/certification, zinc and total organics/oil and grease.

Battery Manufacture 40 CFR 461

Dates

Proposed Rule:	November 10, 1982
Final Rule:	March 9, 1984
Effective Date:	April 23, 1984
Compliance Dates:	
PSES	March 9, 1987
PSNS	Commencement of Discharge

Applicability

- Applies to facilities which manufacture batteries
- Supercedes Electroplating and Metal Finishing standards
- Includes manufacture of anodes and cathodes
- Includes ancillary operations

Subcategories

A. Cadmium (anode)
B. Calcium (anode)
C. Lead (anode)
D. Leclanche (zinc anode with acid electrolyte)
E. Lithium (anode)
F. Magnesium (anode)
G. Zinc (anode)

Effluent Limits

Each subcategory contains various regulated processes. Production-based limits are applied using the building block approach.

Pollutant parameters, which vary by subcategory, include metals and cyanide.

There are no pretreatment standards for existing sources under subcategories B and E.

SIC Codes

Generally 3691 and 3692

Comments

Discharge standards are not established for operations associated with production of structural components such as cases, separators, contacts, etc. These are covered by other categorical standards. Examples include:

- Plastic and rubber case manufacture
- Cell containers and components
  - -forming
  - -cleaning and deburring
  - -metal surface treatment
- Retorting, smelting and alloying metals
- Inorganic chemical production
- Pasted paper manufacture (without mercury)

****

Coil Coating 40 CFR 465

Dates

Proposed Rule:	January 12, 1981-Phase I
	February 10, 1983-Phase II
Final Rule:	December 1, 1982-Phase I
	November 17, 1983-Phase II
Effective Dates:	January 17, 1983-Phase I
	January 2, 1984-Phase II
Compliance Dates:	
PSES	January 17, 1983-Phase I
	June 30, 1984-Phase II
PSNS	Commencement of Discharge

Applicability

- Applies to coil coating or canmaking facilities which perform any two or more of the following operations on basis material coil:
  - cleaning
  - conversion coating
  - painting

Subcategories

Phase I:
A. Steel Basis Material
B. Galvanized Basis Material
C. Aluminum Basis Material

Phase II:
D. Canmaking

Regulated Pollutants

Subcategories A, B and C: Metals and Cyanide
Subcategories D: Metals, fluoride, phosphorus, TTO/oil and grease

Effluent Limits

Production-based limits (mass/area processed)

Comments

- Cleaning processes - alkaline or acid

- Conversion Coating - various chemical processes which provide a corrosion-resistant film bonded to the basis material
  - chromating
  - phosphating
  - complex oxides
  - no-rinse conversions coating

- Painting Operations typically include:
  - roll coating
  - oven curing
  - water quench
  - rewinding

- Canmaking - seamed vs. seamless
  - seamed - no process water used
  - seamless
    - draw and iron
    - canwasher - washing
    - rinsing
    - surface coating (phosphating, chromating)

Copper Forming 40 CFR 468

Dates

Proposed Rule:	November 12, 1982
Final Rule:	August 15, 1983
Effective Date:	September 26, 1986
Compliance Dates:	
PSES	August 15, 1986
PSNS	Commencement of Discharge

Applicability

- Applies to forming of copper and copper alloys

- Covers core operations such as:
  - hot rolling
  - cold rolling
  - drawing
  - extrusion
  - forging

- Covers ancillary operations, such as:
  - surface treatment
  - heat treatment

- Precious metals are not covered (see Nonferrous Metals Forming 40 CFR 471)

- Casting not covered here (see Metal Molding and Casting 40 CFR 464)

Subcategory

A Copper Forming

17 processes are regulated under the subcategory.

Effluent Limits

Production-based limits are applied using the "building block" approach Regulated pollutants include metals and Total Toxic Organics/Oil and Grease.

Electrical and Electronic Components 40 CFR 469

Dates

Proposed Rule:	August 24, 1982
Final Rule:	April 8, 1983
Effective Date:	May 19, 1983
Compliance Dates:	
PSES	July 1, 1984-TTO
	November 8, 1985-Arsenic
PSNS	Commencement of Discharge

Subcategories

A. Semiconductor

Applies to all operations associated with the manufacture of semiconductors, except:
- sputtering
- vapor deposition
- electroplating

Limited pollutant parameters:

- Total Toxic Organics/certification and solvent management plan
- fluoride
- pH

B. Electronic Crystals

Applies to discharges resulting from manufacture of electronic crystals (growing of crystals or production of wafers)

Limited pollutant parameters:

- TTO/certification and SMP
- Arsenic

C. Cathode Ray Tube

Applies to the discharges resulting from the manufacture of cathode ray tubes, excluding receiving and transmitting tubes.

Limited pollutant parameters:

- TTO/Certification and SMP
- Metals
- Fluoride

D. Luminescent Materials

Applies to discharges resulting from the manufacture of luminescent materials such as:

Calcium halophosphate
Ytrium oxide
Zinc sulfide
Zinc-cadmium sulfide

PSNS only

Limited pollutants:

Metals
Fluoride

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Electroplating 40 CFR 413

Dates

Proposed Rule:	February 4, 1978
Final Rule:	September 7, 1979
Effective Date:	March 30, 1981
Compliance Dates:	April 27, 1984-Metals and Cyanide for Non-Integrated facilities June 30, 1984-Metals and Cyanide for Integrated facilities July 15, 1986-TTO

Applicability

- Applies to electroplating and related metal finishing operations

- Exceptions:

  - Electrowinning and electrorefining conducted as part of nonferrous metal smelting and refining (40 CFR 421)

  - Metal surface preparation and immersion plating or electroless plating as part of porcelain enameling (40 CFR 466)

  - Electrodeposition of active electrode materials, electroimpregnation and electroforming as part of battery manufacture (40 CFR 461)

  - Metallic platemaking and gravure cylinder preparation in printing/publishing facilities

  - Continuous strip plating in iron and steel facilities

- Applies to existing electroplating job shops and independent printing circuitboard manufacturers (see metal finishing 40 CFR 433)

Subcategories

A. Electroplating of Common Metals
B. Electroplating of Precious Metals
C. Electroplating of Specialty Metals (reserved)
D. Anodizing
E. Coating
F. Chemical Etching and Milling
G. Electroless Plating
H. Printed Circuitboards

Effluent Limits

- facilities with discharges of <38,000 liters/day have fewer parameters limited
- Limits for Metals, Cyanide and Total Organics
- Concentration-based limits and alternative mass-based limits for discharges >38,000 liters/day.
- Optional control program for discharges >38,000 liters/day.
- Daily maximum and four-day averages
- Equivalent monthly averages for use in the combined wastestream formula.

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Inorganic Chemicals Manufacture 40 CFR 415

Dates

Proposed Rule:	July 24, 1980-Phase I October 25, 1983-Phase II
Final Rule:	June 29, 1982-Phase I August 22, 1984-Phase II
Effective Dates:	August 12, 1982-Phase I October 5, 1984-Phase II
Compliance Dates:	
PSES	July 20, 1980 (Subparts A, B, L, AL, AR, BA and BC) August 22, 1987 (Subparts AJ, AU, BL, BM, BN, and BO except Copper Sulfate and Nickel Sulfate processes June 29, 1985 (Copper Sulfate, Nickel Sulfate, and Subparts not listed above)
PSNS	Commencement of Discharge

Applicability

Applies to discharges resulting from the production of chemicals listed in specific subcategories.

Subcategories

Subpart	Subcategory	PSES	PSNS
A	Aluminum Chloride	P	N
B	Aluminum Sulfate	P	P
C	Calcium Carbide	E	P
D	Calcium Chloride	E	P
E	Calcium Oxide	E	P
F	Chlor-alkali		
	-Mercury Cell	E	P
	-Diaphragm Cell	P	P
G	Hydrochloric Acid	E	E
H	Hydrofluoric Acid	E	P
I	Hydrogen Peroxide	E	E
J	Nitric Acid	E	E
K	Potassium Metal	E	P
L	Potassium Dichromate	P	P
M	Potassium Sulfate	E	P
N	Sodium Bicarbonate	E	P
O	Sodium Carbonate	E	E
P	Sodium Chloride	E	P
Q	Sodium Dichromate and Sodium Sulfate	E	P
R	Sodium Metal	E	E
S	Sodium Silicate	E	E
T	Sodium Sulfite	E	P*
U	Sulfuric Acid	E	E
V	Titanium Dioxide		
	-Sulfate	E	P
	-Chloride	E	P
	-Chlorine Ilmenite	E	P
W	Aluminum Fluoride	R	R
X	Ammonium Chloride	E	E
Y	Ammonium Hydroxide	E	E
Z	Barium Carbonate	E	E
AA	Borax	E	P*
AB	Boric Acid	E	E
AC	Bromine	E	P*
AD	Calcium Carbonate	E	E
AE	Calcium Hydroxide	E	P*
AF	Carbon Dioxide	E	E
AG	Carbon Monoxide and Byproduct Hydrogen	E	E
AH	Chrome Pigments	P	P
AI	Chromic Acid	E	P*
AJ	Copper Sulfate	A*	A*
AK	Cuprous Oxide	E	E
AL	Ferric Chloride	P	P*
AM	Ferrous Sulfate	E	E
AN	Fluorine	E	P*
AO	Hydrogen	E	E
AP	Hydrogen Cyanide	E	P
AQ	Iodine	E	P*

AR	Lead Monoxide	P	P*
AS	Lithium Carbonate	E	E
AT	Manganese Sulfate	E	E
AU	Nickel Sulfate	A*	A*
AV	Strong Nitric Acid	E	E
AW	Oxygen and Nitrogen	E	E
AX	Potassium Chloride	E	P*
AY	Potassium Iodide	E	E
AZ	Potassium Permanganate	E	E
BA	Silver Nitrate	P	N
BB	Sodium Bisulfite	E	E
BC	Sodium Fluoride	P	P*
BD	Sodium Hydrosulfide	E	E
BE	Sodium Hydrosulfite	E	E
BF	Sodium Silicofluoride	E	E
BG	Sodium Thiosulfate	E	E
BH	Stannic Oxide	E	P*
BI	Sulfur Dioxide	E	E
BJ	Zinc Oxide	E	E
BK	Zinc Sulfate	E	P*
BL	Cadmium Pigments and Salts		
	- Cadmium Pigments	P	P
	- Cadmium Salts	P	P
BM	Cobalt Salts	R	P
BN	Sodium Chlorate	R	P
BO	Zinc Chloride	P	P

Key: P = Promulgated in Phase I Ruling
P* = Promulgated in Phase II Ruling
A* = Promulgated Standards Amended in Phase II Ruling
R = Reserved or Deferred
N = Not addressed
E = Excluded under provisions of the NRDC Settlement Agreement

Effluent Limits

Regulated parameters include metals, fluoride and cyanide. Includes mass and alternative concentration limits.

SIC Codes

2812, 2813, 2816, 2819

Iron and Steel 40 CFR 420

Dates

Proposed Rule:	January 7, 1981
Final Rule:	May 27, 1982
Effective Date:	July 10, 1982
Compliance Dates:	July 10, 1985
PSES	July 10, 1985
PSNS	Commencement of Discharge

Applicability

Applies to discharges resulting from the production of Iron and Steel.

Subcategories

A. Cokemaking
Beehive and byproduct cokemaking
ammonia, cyanide and phenol limits

B. Sintering (of wastes)
ammonia, cyanide, phenols, lead and zinc limits

C. Iron making (blast furnace)
Ammonia, cyanide, phenols, lead and zinc limits

D. Steelmaking
Basic Oxygen Furnace
Open Health
Electric Arc Furnace
Lead and zinc limits

E. Vacuum degassing (of molten steel)
Lead and zinc limits

F. Continuous casting (in water-cooled molds)
Lead and zinc limits

G. Hot Forming (in primary, section, flat, and pipe and tub mills)
no numeric limits

H. Salt Bath Descaling
Chromium, nickel and cyanide limits

I. Acid Pickling
Chromium, nickel, lead and zinc limits

J. Cold Forming
Metals, naphthalene, tetrachloroethylene limits

K. Alkaline Cleaning
No numeric limits

L. Hot Coating
Hexavalent chromium, lead, and zinc limits

Some subcategories are further broken down into regulated processes. Production-based limits are applied using the "building block" approach.

SIC Codes

3312, 3315, 3316, 3317

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Leather Tanning and Finishing 40 CFR 425

Dates

Proposed Rule:	July 2, 1979
Final Rule:	November 23, 1982
Effective Dates:	November 25, 1985 (excluding subpart C)
PSES	March 31, 1989 (subpart C)
PSNS	Commencement of Discharge

Applicability

Applies to discharges from leather tanning and finishing facilities

Subcategories

A. Hair Pulp, Chrome Tan, Retan - Wet Finish
B. Hair Save, Chrome Tan, Retan - Wet Finish
C. Hair Save, or Pulp, Non Chrome Tan, Retan - Wet Finish
D. Retan - Wet Finish - Sides
E. No Beamhouse
F. Through the Blue
G. Shearling
H. Pigskin
I. Retan - Wet Finish - Splits

Effluent Limits

Parameters limited include sulfide, chromium and pH. Limits are concentration-based. Sulfide waiver is available.

Terminology

Hair Pulp - chemical dehairing
Hair Save - physical dehairing
Chrome Tan - tanning using chromium
Non Chrome Tan - tanning with vegetable derived chemicals or similar synthetic agents.
Retan - Wet Finish - final processing of tanned hide, using:
retan
bleach
color
fat liquor

"Beamhouse" - hair removal
"through-the-blue"-type of tanning process using hair pulp and chrome tanning, but no retan-wet finish

SIC Codes

3111

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Metal Finishing 40 CFR 433

Dates

Proposed Rule:	August 31, 1982
Final Rule:	July 15, 1983
Effective Dates:	August 29, 1983
Compliance Dates:	
PSES	February 15, 1986
PSNS	Commencement of Discharge

Applicability

- Applies to facilities which perform one or more of the six core operations:

  Electroplating
  Electroless plating
  Anodizing
  Coating
  Chemical Etching
  Milling

- If one or more core operations are present, regulation applies to discharges from those operations and to discharges from 40 additional related operations.

- Other regulations may supercede:
  Nonferrous Metal Manufacturing (40 CFR 421)
  Coil Coating (40 CFR 465)
  Nonferrous Metals forming and Metal Powders (40 CFR 471)
  Porcelain Enameling (40 CFR 466)
  Battery Manufacturing (40 CFR 461)
  Iron and Steel (40 CFR 420)
  Metal Molding and Casting (40 CFR 464) (grinding)
  Aluminum Forming (40 CFR 467)
  Copper Forming (40 CFR 468)
  Plastic Molding and Forming (40 CFR 463)
  Electrical and Electronic Components (40 CFR 469)

- Does not apply to metallic platemaking and gravure cylinders preparation conducted by printing and publishing facilities

- Does not apply to existing electroplating job shops and independent printed circuitboard manufacturers (see Electroplating, 40 CFR 413)

Subcategory

A. Metal finishing

Effluent Limits

- Pollutants limited include metals, cyanide (total) and Total Toxic Organics/certification. Alternative limit for amenable cyanide for facilities with cyanide treatment.
- Effluent limits are concentration-based.

****

Metal Molding and Casting 40 CFR 464

Dates

Proposed Rule:	November 15, 1982
Final Rule:	October 30, 1985
Effective Dates:	December 13, 1985
Compliance Dates:	
PSES	October 31, 1988
PSNS	Commencement of Discharge

Applicability

- Remelting of metal or alloy to form cast intermediate or final product

- Casting of ingots, pigs and other cast shapes related to nonferrous metals manufacture (40 CFR 421) or Aluminum forming (40 CFR 467), Nonferrous Metal Forming (40 CFR 471) is subject to those respective regulations and is not included here.

- Casting of Ferrous ingots and pigs is primarily a dry operation not covered by categorical regulation

- Post casting/cooling operations are covered by Electroplating and metal finishing categories, except grinding which is covered here.

Subcategories

A. Aluminum Casting
B. Copper Casting
C. Ferrous Casting
D. Zinc Casting

Subcategories are further broken down by regulated processes

Regulated Processes

Casting cleaning	Melting furnace scrubber
Casting quench	Mold cooling
Die casting	Direct chill casting
Dust collection scrubber	Slag quench
Grinding scrubber	Wet sand reclamation
Investment casting	

Effluent Limits

Production-based limits are applied using the "building block" approach. Limited pollutants, which vary with regulated operation, include metals, phenols and total toxic organics/oil and grease. No process water discharge is allowed from grinding scrubber operations.

SIC Codes

3321 - Gray and Ductile Iron Foundries
3322 - Malleable Iron Foundries
3324 - Steel Investment Foundries
3325 - Steel Foundries, not elsewhere classified
3363 - Aluminum Die - Castings
3365 - Aluminum Foundries
3366 - Copper Foundries
3369 - Nonfoundries, Except Aluminum and Copper

****

Nonferrous Metals Forming and Metal Powders 40 CFR 471

Dates

Proposed Rule:	March 5, 1984
Final Rule:	August 23, 1985
Effective Dates:	October 7, 1985
Compliance Dates:	
PSES	August 23, 1988
PSNS	Commencement of Discharge

Applicability

- Applies to the forming of nonferrous metals and their allows except Beryllium, copper and aluminum and their alloys
  - aluminum alloys: aluminum >50% by weight
  - copper alloys: copper >50% by weight
  - beryllium alloys: beryllium >0.1% by weight

- Aluminum and aluminum alloy forming is covered by 40 CFR 467

- Copper and Copper alloy forming is covered by 40 CFR 468

- Beryllium and beryllium alloys

- Covers forming operations such as:
  - hot rolling
  - cold rolling
  - extruding
  - forging
  - drawing
  - swaging
  - cladding
  - tube reducing

- Covers ancillary operations integral to forming such as:
  - casting for subsequent forming (supercedes Metal Molding and Casting, 40 CFR 464)
  - heat treatment
  - surface treatment (supercedes Electroplating and Metal Finishing 40 CFR 413 and 433)
  - alkaline cleaning
  - solvents degreasing
  - product testing
  - surface coating
  - grinding
  - tumbling
  - burnishing
  - wet air pollution control

- Applies to mechanical metal powder production and forming of parts from metal powders, as well as to ancillary operations listed above for:
  - iron, copper and aluminum and their alloys
  - nonferrous metals and their alloys

- Does not apply to metal powers produced by chemical means (e.g. precipitation)

- When metal powder production is final step in refining, it is covered under Nonferrous Metals Manufacturing (40 CFR 421)

<u>Subcategories</u>

A. Lead/Tin/Bismuth Forming
B. Magnesium Forming
C. Nickel - Cobalt Forming
D. Precious Metals Forming
E. Refractory Metals Forming
F. Titanium Forming
G. Uranium Forming
H. Zinc Forming
I. Zirconium - Hafnium Forming
J. Metal Powers

Subcategories are further broken down by regulated processes.

Effluent Limits

Production-based limits are applied using the building block approach. Limited pollutants, which vary with regulated operation, include metals, ammonia, fluoride and cyanide.

SIC Codes

3356 - Rolling, Drawing and Extruding of Nonferrous Metals
3357 - Drawing and Insulating Nonferrous Wire
3463 - Nonferrous Forgings
3497 - Metal, Foil and Leaf

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Nonferrous Metals Manufacturing 40 CFR 421

Dates (Phase I)

Proposed Rule:	February 17, 1983
Final Rule:	March 8, 1984
Effective Dates:	April 23, 1984 (most subparts)
	August 20 (subparts B and C)
	March 7, 1988 (subpart J)
Compliance Dates:	
PSES	March 9, 1987 (except subpart J)
	February 22, 1988 (subpart J)
PSNS	Commencement of Discharge

Dates (Phase II)

Proposed Rule:	June 27, 1984
Final Rule:	September 20, 1985
Effective Date:	November 4, 1985
Compliance Dates:	
PSES	September 20, 1988
PSNS	Commencement of Discharge

Applicability

- production of primary nonferrous metals from ore concentrates

- recovery of secondary nonferrous metals from recycle waste

- alloying or casting of hot metals from nonferrous metals manufacturing operations without prior cooling

- remelting of cooled metal followed by alloying or cooling is subject to:
  - -Aluminum Forming 40 CFR 467,
  - -Nonferrous Metals Forming 40 CFR 471, or
  - -Metal Molding and Casting 40 CFR 464

- includes nonferrous metal smelting and refining operations

- excludes mining and concentrating of ores (Ore Mining and Dressing 40 CFR 440)

- excludes rolling, drawing of metals (Nonferrous Metals Forming 40 CFR 471, Aluminum Forming 40 CFR 467, Copper Forming CFR 468)

Subcategories

Subcategories fall into two phases with separate applicable dates

Phase I

B - Primary Aluminum Smelting
C - Secondary Aluminum Smelting
D - Primary Copper Smelting
E - Primary Electrolytic Copper Refining
F - Secondary Copper
G - Primary Lead
H - Primary Zinc
I - Metallurgical Acid Plants
J - Primary Tungsten
K - Primary Columbium-Tantalum
L - Secondary Silver
M - Secondary Lead

Phase II

A - Bauxite Refining
I - Metallurgical Acid Plants
N - Primary Antimony
O - Primary Beryllium
P - Primary and Secondary Germanium and Gallium
Q - Secondary Indium
R - Secondary Mercury
S - Primary Molybdenum and Rhenium
T - Secondary Molybdenum and Vanadium
U - Primary Nichel and Cobalt
V - Secondary Precious Metals
W - Primary Precious Metals and Mercury
X - Secondary Precious Metals
Y - Primary Rare Earth Metals
Z - Secondary Tantalum
AA- Secondary Tin
AB- Primary and Secondary Titanium
AC- Secondary Tungsten and Cobalt
AD- Secondary Uranium
AE- Primary Zirconium and Hafnium

Most subcategories are further broken into manufacturing processes.

Regulated Processes

The regulation covers many specific processes, including:

- Wet air pollution control devices
- cooling and quenching
- washing and rinsing operations
- acid leaching

Effluent Limits

Production-based limits are applied using the "building block" approach. Limited pollutants, which vary with subcategory and process, include metals, cyanide, fluoride, and ammonia.

SIC Codes

333 Primary Smelting and Refining of Nonferrous Metals
334 Secondary Smelting and Refining of Nonferrous Metals

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Organic Chemicals, Plastics and Synthetic Fibers 40 CFR 414

Dates

Proposed Rule:	March 21, 1983
Final Rule:	November 5, 1987
Effective Date:	December 21, 1987
Compliance Dates:	
PSES	November 5, 1990
PSNS	Commencement of Discharge

Applicability

Applies to process wastewater from facilities which manufacture products which are included (and have been reported to the Bureau of Census) within the following SIC codes:

2821 - Plastic Materials, Synthetic Resins and Nonvulcanizable Elastomers

2823 - Cellulosic Man-Made Fibers

2824 - Synthetic Organic Fibers, Except Cellulosic

2865 - Cyclic Crudes and Intermediates, Dyes, and Organic Pigments

2869 - Industrial Organic Chemicals, Not Elsewhere Classified

The following SIC groups are exempt from regulation:

2843085 - Bulk Surface Active Agents

28914 - Synthetic Resin and Rubber Adhesives

Chemicals and Chemical Preparations, Not Elsewhere Classified

2899568 - Sizes, all types

2899597 - Other Industrial Chemical Specialties, Including Fluxes, Plastic Wood Preparations, and Embalming Fluids

2911058 - Aromatic Hydrocarbons Manufactured from Purchased Refinery Products

2911632 - Aliphatic Hydrocarbons Manufactured from Purchased Refinery products

Subcategories

B - Rayon Fibers
C - Other Fibers
D - Thermoplastic Resins
E - Thermosetting Resins
F - Commodity Organic Chemicals
G - Bulk Organic Chemicals
H - Specialty Organic Chemicals
I - Direct Discharge Point Sources that use End-of Pipe Biological Treatment
J - Direct Discharge Point Sources that do not use End-of-Pipe Biological Treatment

Effluent Limits

Limits for Cyanide, Lead, zinc, and 44 organic pollutants are mass limits based upon process flow.

Comments

The OSPSF regulation does not apply:

- To OCPSF production operations or product/processes which have historically been reported to the Bureau of Census under non-OCPSF SIC subgroups or codes, even if the operations or products could have been reported under one or more of the five regulated SIC major groups.

- To process wastewater discharges from the manufacture of organic chemical compounds solely by extraction from plant and animal raw materials or by fermentation processes.

- To discharges from OCPSF product/process operations which are covered by provisions of other categorical standards if the wastewaters from OCPSF operations are treated in combination with non-OCPSF regulated wastewaters (i.e. if OCPSF-regulated wastewaters are combined for treatment with other categorical-regulated wastewaters).

  However, the OCPSF regulation does apply to OCPSF product/processes covered by this regulation if the facility reports OCPSF products under SIC codes 2821, 2865 or 2869 and its OCPSF wastewaters are treated by a separate treatment system at that facility or are discharged separately to a POTW.

In addition, the OCPSF regulation applies:

- To plastics molding and forming processes when resin manufacturers mold or form (e.g., extrude and pellitize) crude intermediate plastic material for shipment off-site.

- To the extrusion of fibers.

Plastics molding and forming processes other than those described above are regulated by the Plastics Molding and Forming pretreatment standards (40 CFR Part 463).

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Petroleum Refining 40 CFR 419

Dates

Proposed Rule:	December 21, 1979
Final Rule:	October 18, 1982
Effective Date:	December 1, 1982
Compliance Dates:	
PSES	December 1, 1985
PSNS	Commencement of Discharge

Applicability

(See subcategories)

Subcategories

A. Topping:
   Covers facilities which produce petroleum products by topping or catalytic reforming. Does not cover facilities which use thermal processes (coking, vis-breaking, etc.) or catalytic cracking.

B. Cracking:
   Covers facilities using topping and cracking but excludes facilities covered under C, D and E.

C. Petrochemical:
Covers facilities using topping, cracking and petrochemical operations, but excludes facilities covered by D and E.

D. Lube:
Covers facilities using topping, cracking and lube oil manufacture, but excludes facilities covered under C and E.

E. Integrated:
Covers facilities using topping, cracking, lube oil manufacture and petrochemical operations.

Effluent Limits

Concentration limits for oil and grease, ammonia and chromium.

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Pharmaceuticals Manufacturing 40 CFR 439

Dates

Proposed Rule:	November 26, 1982
Final Rule:	October 27, 1983
Effective Date:	December 12, 1983
Compliance Dates:	
PSES	October 27, 1986
PSNS	Commencement of Discharge

Applicability

Applies to facilities which produce pharmaceuticals

Subcategories

A. Fermentation Products
B. Extraction Products
C. Chemical Synthesis
D. Mixing/Compounding and Formulations
E. Research (no PSES or PSNS)

Effluent Limits

Concentration limits for Total Cyanide or certification

SIC Codes

2831 - Biological Products
2833 - Medicinal chemicals and Botanical Product
2834 - Pharmaceutical
- Fermentation, biological, natural extraction, chemical synthesis and formulation products considered pharmaceutically active by FDA.
2844 - Cosmetics that function as skin treatment.

Porcelain Enameling 40 CFR 466

Dates

Proposed Rule:	January 27, 1981
Final Rule:	November 24, 1982
Effective Date:	January 7, 1983
Compliance Dates:	
PSES	November 25, 1985
PSNS	Commencement of Discharge

Applicability

- Applies to facilities which perform porcelain enameling.
  Exceptions:
  - Existing porcelain enameling facilities which prepare or coat less than 1600 m^2/day and discharge less than 60,000 l/day of wastewater are exempt from PSES.
  - Does not cover porcelain enameling of precious metals.

- Regulation applies to entire operation

Subcategories	SIC Codes
Steel Basis Material	3431, 3469, 3479, 3631, 3632, 3633, 3639
Cast Iron Basis Material	3431, 3631
Aluminum Basis Material	3469, 3479, 3631
Copper Basis Material	3469, 3479, 3631

Effluent Limits

- Limits for Chromium, Nickel, Lead and Zinc.
- Limits are production-based with alternative concentration - based limits for PSES.
- Chromium exemption is available.

Comments

- Typical processes include:

  cleaning - alkaline or solvent
  acid etch
  nickel flash plating
  neutralization
  grit blasting
  ball milling of "frit" and additives to produce "slip"
  Coating application:

  - air spray
  - electrostatic spray
  - dip coating

- flow coating
- powder
- electrostatic powder coating

****

Pulp, Paper and Paperboard 40 CFR 430 and 431

Dates

Proposed Rule:	January 6, 1981
Final Rule:	November 18, 1982
Effective Date:	January 3, 1983
Compliance Dates:	
PSES	July 1, 1984
PSNS	Commencement of Discharge

Applicability

Applies to discharge from pulp, paper and paperboard mills.

Subcategories	SIC Codes	Subcategories	SIC Codes
Part 430			
A. Unbleached Kraft	2611, 2621, 2631	N. Groundwood-Course, Molded, and News (CMN) Papers	2611, 2621
B. Semi-chemical	2611, 2621, 2631	O. Groundwood-Fine Paper	2611, 2621
C. Reserved		P. Soda	2611, 2621
D. Unbleached Kraft - Neutral Sulfite Semi-Chemical (Cross Recovery)	2611, 2621 2631	Q. Deink	2621
		R. Nonintegrated-Fine Papers	2621
E. Paperboard from Wastepaper	2631	S. Nonintegrated-Tissue Papers	2631
F. Dissolving Kraft	2611	T. Tissue From Wastepaper	2647
G. Market Bleached Kraft	2611	U. Papergrade Sulfite (Drum Wash)	2611, 2621
H. Board, Course, and Tissue (BCT) Bleached Kraft	2611, 2621 2631	V. Unbleached Kraft and Semi-chemical	2611, 2621 2631
I. Fine Bleached Kraft	2611, 2621	W. Wastepaper Molded Products	2646

J.	Papergrade Sulfite (Blow Pit Wash)	2611, 2621	X.	Nonintegrated-Lightweight Papers	2621
K.	Dissolving Sulfite Pulp	2611, 2621	Y.	Nonintegrated-Filter and Non-woven Paper	2621
L.	Groundwood-Chemi-mechanical	2611, 2621	Z.	Nonintegrated Paperboard	2631
M.	Groundwood-Thermo-mechanical	2611, 2621			

Part 431

A.	Builders' Paper and Roofing Felt	2661

Effluent Limits

- Trichlorophenol and Pentachlorophenol limits/certification
- Zinc limits for subcategories M, N and O
- Concentration or Mass limits

Steam Electric Power 40 CFR 423

Dates

Proposed Rule:	October 14, 1980
Final Rule:	November 19, 1982
Effective Date:	January 2, 1983
Compliance Dates:	
PSES	July 1, 1984
PSNS	Commencement of Discharge

Applicability

Applies to discharge from establishments primarily engaged in electricity for distribution and sale which results primarily from a process utilizing fossil or nuclear fuel with a steam water system thermal cycle.

Effluent Limits

- PCBs prohibited
- Copper limit in metal cleaning wastes
- Chromium and zinc limits and priority pollutant prohibition in cooling tower blowdown
- For new sources, no discharge of pollutants from fly ash transport water

SIC Codes

4911, 4931

Timber Products Processing 40 CFR 429

Dates

Proposed Rule:	October 31, 1979
Final Rule:	January 26, 1981
Effective Date:	March 30, 1981
Compliance Dates:	
PSES	January 26, 1984
PSNS	Commencement of Discharge

Applicability

- Applies to any timber product process operation.
- Applies to any plant producing insulation board with wood as major raw material.

Subcategories and SIC COdes

A.	Barking	2421, 2426, 2432, 2491, 2499
B.	Veneer	2432
C.	Plywood	2432
D.	Hardboard - Dry Process	2499
E.	Hardboard - Wet Process	2499
F.	Wood Preserving - Water Borne or Nonpressure	2491
G.	Wood Preserving - Steam	2491
H.	Wood Preserving - Boultonizing	2491
I.	Wet Storage	2491, 2421, 2426, 2429, 2431, 2499
J.	Log Washing	2491, 2421, 2426, 2429, 2431, 2432, 2499
K.	Sawmills and Planning Mills	2421, 2426, 2429, 2431
L.	Finishing	2421, 2426, 2429, 2431, 2432, 2499
M.	Particleboard Manufacturing	2492
N.	Insulation Board	2661
O.	Wood Furniture and Fixture Production without Water Wash Spray Booths or Laundry Facilities	2511, 2512, 2519, 2521, 2631, 2541, 2591, 2599

P. Wood Furniture and Fixture Production with Water Wash Spray Booths or Laundry Facilities	2511, 2512, 2519, 2521, 2631, 2541, 2591, 2599

Effluent Limits

- Subcategory F - discharge to POTW prohibited.
- Subcategory G and H - limits for copper, chromium, arsenic, and oil and grease.
- All other subcategories - no numeric limits.

Appendix A

Summary of Common Metals Operations and Applicable Regulations

Operation	Regulation
'Mining and Concentration of Ores	'Ore Mining and Dressing 40 CFR 440
'Production of Primary and Secondary Metals: Smelting Refining	'Nonferrous Metals Manufacturing 40 CFR 421
'Casting Operations	'Metal Molding and Casting 40 CFR 464, except when superceded by: 'Aluminum Forming 40 CFR 467 'Nonferrous Metal Forming 40 CFR 471 'Nonferrous Metals Manufacturing 40 CFR 421 'Iron and Steel 40 CFR 420
'Forming Operations: Rolling Extruding Forging Drawing plus ancillary operations: Heat Treatment Surface Treatment Casting etc.	'Nonferrous Metals Forming 40 CFR 471 'Aluminum Forming 40 CFR 467 'Copper Forming 40 CFR 468 'Iron and Steel 40 CFR 420
'Metal Powders Production	'Nonferrous Metals and Metal Powders Production 40 CFR 471 except when covered as final step under: 'Nonferrous Metals Manufacturing 40 CFR 421
'Electroplating	'Metal Finishing 40 CFR 433 'Electroplating 40 CFR 413 - for existing job shops and printed circuit board manufactures.

- Metal Finishing Operations
  - Electroplating
  - Electroless Plating
  - Anodizing
  - Coatings (chromating, phosphating, metal coloring, passivating)
  - Chemical etching and milling
  - Printed Circuitboard Manufacture

plus related operations:

- Cleaning
- Machining
- Grinding
- Polishing
- Welding
- Brazing
- Solvent Degreasing
- etc.

- Metal Finishing
  40 CFR 433
  except when superceded by:

- Nonferrous Metals Manufacture 40 CFR 421
- Coil Coating
  40 CFR 465
- Nonferrous Metals Forming
  40 CFR 471
- Porcelain Enameling
  40 CFR 466
- Battery Manufacture
  40 CFR 461
- Iron and Steel
  40 CFR 420
- Metal Molding and Casting
  40 CFR 464
- Aluminum Forming
  40 CFR 467
- Copper Forming
  40 CFR 468
- Plastic Molding and Forming
  40 CFR 463
- Electrical and Electronic Components
  40 CFR 469

Category Determination Exercises

Directions

For each situation described below, indicate by number (e.g. 433 for Metal Finishing) the applicable categorical regulation or regulations, including applicable subcategories where possible. If no regulations apply, write N.R.

1) An established electroplater produces chrome plated parts for the Auto Industry. _____

2) An auto manufacturer purchases the above facility in order to produce the plated parts more inexpensively. _____

3) A company owned by a large battery manufacturer produces Zinc Chloride for use in Leclanche Batteries. _____

4) A company produces cathodes from nickel powder for use in nickel-cadmium batteries _____

5) A company produces Zinc Sulfide. _____

6) A company produces Zinc Sulfate. _____

7) A company produces covers for aluminum cans. _____

8) A venetian blind manufacturer performs phosphating and painting. _____

9) A copper washer manufacturer performs a casting operation. _____

10) A company performs casting of aluminum alloy (5 percent copper) prior to rolling operation. _____

11) The above company also forms parts from aluminum powders. _____

12) A chemical company produces Cadmium Sulfide. _____

13) A bathroom fixture manufacture performs metal finishing processes. _____

14) A new company performs electroplating in conjunction with the production of semiconductors. _____

15) A cosmetic manufacturer brings out a new line of medicated lip sticks. _____

16) An Organic Chemical Manufacturer produces several chemicals not mentioned specifically in the OCPSF regulation. The company had previously used the SIC 2869 when referring to these products. In late 1987 this was revaluated and the company determined that SIC 2899 was more applicable. _____

17) A company produces metal parts from scrap copper. Following smelting of the scrap the part is cast and when cooled, metal finishing operations are performed. _____

18) An electroplater adds a new plating line. _____

19) A company produces plastic cases for car batteries. _____

20) A company manufacturers metal face plates for stereo equipment. _____

21) A metal finisher performs cleaning, brazing and sputtering. There is also small chemical etching operation, but there is no discharge to the POTW from this operation. _____

22) An organic chemical company manufactures pesticides. _____

CATEGORICAL STANDARDS

SUMMARIES

OCTOBER 1988

CATEGORICAL STANDARD SUMMARY STATUS

CATEGORICAL STANDARD SUMMARY	REGULATION STATUS	PAGE #
1. Aluminum Forming	Final	1
2. Battery Manufacturing	Final	10
3. Coal Mining	Final	19
4. Coil Coating (I and II)	Final	20
5. Copper Forming	Final	26
6. Electrical & Electronic Comp. I	Final	39
7. Electrical & Electronic Comp. II	Final	43
8. Electroplating	Final	46
9. Inorganic Chemicals Man. (I and II)	Final	56
10. Iron and Steel	Final	82
11. Leather Tanning & Finishing	Final	96
12. Metal Finishing	Final	101
13. Metal Molding & Casting	Final	107
14. Nonferrous Metals Forming	Final	131
15. Nonferrous Metals Man. I	Final	151
16. Nonferrous Metals Man. II	Final	170
17. Ore Mining and Dressing	Final	236
18. Organic Chem., Plas., & Syn. Fibers	Final	237
19. Pesticide Chemicals	Withdrawn	255
20. Petroleum Refining	Final	267
21. Pharmaceuticals	Final	272
22. Plastics Molding & Forming	Final	274
23. Porcelain Enameling	Final	276
24. Pulp, Paper, & Paperboard	Final	282
25. Steam Electric	Final	293
26. Textile Mills	Final	297
27. Timber Products	Final	298

40 CFR PART 467

ALUMINUM FORMING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Aluminum Forming Category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this industrial category. The Aluminum Forming categorical standards were established by the Environmental Protection Agency in Part 467 of Title 40 of the Code of Federal Regulations (40 CFR 467). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	November 22, 1982	Vol. 47, p. 52626
Final Rule	October 24, 1983[1]	Vol. 48, p. 49126
Correction	March 27, 1984	Vol. 49, p. 11629
Technical Amendment	January 31, 1985	Vol. 50, p. 4513
Proposed Rule-Amendments	March 19, 1986	Vol. 51, p. 9618

APPLICABLE DATES

Effective Date: December 7, 1983
Baseline Monitoring Report (BMR) Due Date: June 4, 1984
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): October 24, 1986
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Aluminum Forming category is divided into six subcategories based primarily on different manufacturing processes. The subcategories and their corresponding Standard Industrial Classification (SIC) Codes are:

Subcategory	SIC Code
A. Rolling with Neat Oils	3353,3355
B. Rolling with Emulsions	3353,3355

[1]Section 467.01(c) was promulgated as an interim rule. It sets PSES for two groups of plants: 1) those that extrude less than 1,360,000 kg (3 million pounds) of aluminum annually, and 2) plants that draw with emulsions or soaps and produce less than 453,333 kg (1 million pounds) of aluminum annually.

C.	Extrusion	3354
D.	Forging	3463
E.	Drawing with Neat Oils	3354,3355
F.	Drawing with Emulsions or Soaps	3354,3355

Each subcategory consists of two segments, core operations and ancillary operations. Core operations include forming processes and those related processes that typically occur in conjunction with forming. The core also includes processes that are not always used in conjunction with forming but do not discharge wastewater. Ancillary operations are not always unique to a single subcategory and are generally characterized by the substantial volume of wastewater they produce. Since they are not found at every plant, ancillary operations are not included in the core and, therefore, have separate limitations.

The discharge limits for aluminum forming industries are mass-based. The production-normalizing parameter used in setting limitations for both core and ancillary operations is the off-kilogram (off-pound), which is the mass of aluminum or aluminum alloy removed from a forming or ancillary operation at the end of a process cycle for transfer to another process. An aluminum forming plant is permitted to discharge a mass of pollutants equivalent to the sum of the mass limitations established for the core operations and the individual ancillary operation(s) that are used at the plant.

Processes for casting aluminum or aluminum alloy at plants that manufacture aluminum and also do aluminum forming may be subject to different categorical standards. Casting processes at these plants are regulated by the Nonferrous Metals Manufacturing Categorical Standards for casting if they cast aluminum without cooling.[2] If the aluminum they produce is a remelted primary or secondary product and is cast at a facility that also forms aluminum, the casting processes subsequent to remelting are regulated by the Aluminum Forming categorical standards.[3]

REGULATED POLLUTANTS

The pollutants regulated by the Aluminum Forming Categorical Standards are chromium, total cyanide, zinc, and total toxic organics (TTO). For this standard, the term total toxic organics (TTO) is defined in 40 CFR 467.02(p) as the sum of the masses or concentrations of each of the following compounds found in the discharge at a concentration greater than 0.01 mg/l.

p-chloro-m-cresol	benzo(a)pyrene	endosulfan sulfate
2-chlorophenol	benzo(ghi)perylene	bis(2-ethyl hexyl)phthalate
2,4-dinitrotoluene	fluorene	diethylphthalate
1,2-diphenylhydrazine	phenanthrene	3,4-benzofluoranthene
ethylbenzene	dibenzo(a,h)anthracene	benzo(k)fluoranthene
fluoranthene	indeno(1,2,3-c,d)pyrene	chrysene
isophorone	pyrene	acenaphthylene
napthalene	tetrachloroethylene	anthracene
N-nitrosodiphenylamine	toluene	di-n-butyl phthalate
phenol	trichloroethylene	

[2] See the Nonferrous Metals Manufacturing (Phase I) Categorical Standards in the Federal Register, vol. 49, p. 8742, March 8, 1984.

[3] Primary aluminum products are made from refined ore; secondary products are made from recycled aluminum.

endrin	PCB-1221	PCB-1260
endrin aldehyde	PCB-1232	PCB-1016
PCB-1242	PCB-1248	acenaphthene
PCB-1254		

As an alternative to monitoring for TTO, indirect dischargers may monitor and limit oil and grease to the levels established in the PSES and PSNS. Any indirect discharger meeting the alternative monitoring levels for oil and grease standards will be considered to be meeting the TTO standard. However, as outlined by EPA in the Guidance Manual for Implementing Total Toxic Organics (TTO) Pretreatment Standards, industrial dischargers subject to standards for TTO are required to submit the results of monitoring for all 39 regulated toxic organics or the results of oil and grease monitoring to the Control Authority in the BMR, the 90-day compliance report, and subsequent semiannual reports on continued compliance.

In addition, industrial dischargers subject to standards for cyanide may not be required to perform periodic monitoring for cyanide if both of the following conditions are met.

(1) The first wastewater sample of each calendar year has been analyzed and found to contain less than 0.07 mg/l cyanide, and

(2) The owner or operator of the aluminum forming plant certifies in writing to the POTW authority or permit issuing authority that cyanide is not and will not be used in the aluminum process.

SPECIAL CONSIDERATIONS

Surface treatment of aluminum, whether chemical or electrochemical, is covered by the Aluminum Forming standards whenever it is performed as an integral part of aluminum forming. For the purposes of this category, surface treatment is considered to be an integral part of aluminum forming whenever it is performed at the same plant site at which the aluminum is formed. These surface treatment operations are covered by the standards for cleaning or etching baths, rinses, and scrubbers in the Aluminum Forming category and are not subject to regulation under the Metal Finishing standards in 40 CFR Part 433.

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant limits in mg/off-kg (pounds/million off-pounds)[1] of Aluminum*

Subpart	Subcategory	Chromium		Cyanide (T)		Zinc		TTO		Oil and Grease[4]		*Pollutant Unit Basis
		Max[2]	Avg[3]	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
A	Rolling with Neat Oils											
	- Core with annealing furnace scrubber	.036	.015	.024	.010	.119	.050	.057	---	1.64	.98	rolled w/neat oils
	- Core without annealing furnace scrubber	.025	.010	.016	.007	.081	.034	.038	---	1.11	.67	rolled w/neat oils
	- Continuous sheet casting lubricant	.00086	.00035	.00057	.00024	.0029	.0012	.0014	---	.040	.024	cast
	- Solution heat treatment contact cooling water	.90	.37	.59	.25	2.98	1.25	1.41	---	40.74	24.45	quenched
	- Cleaning or etching bath	.079	.032	.052	.022	.262	.109	.124	---	3.58	2.15	cleaned or quenched
	- Cleaning or etching rinse	.61	.25	.41	.17	2.03	.85	.96	---	27.82	16.69	cleaned or etched
	- Cleaning or etching scrubber liquor	.85	.35	.56	.23	2.82	1.18	1.34	---	38.7	23.20	cleaned or etched
B	Rolling with Emulsions											
	- Core	.057	.024	.038	.016	.190	.079	.090	---	2.60	1.56	rolled w/emulsions
	- Direct chill casting contact cooling water	.59	.24	.39	.16	1.94	.81	.92	---	26.58	15.95	cast by semi-continuous methods
	- Solution heat treatment contact cooling water	.90	.37	.59	.25	2.98	1.25	1.41	---	40.74	24.44	quenched
	- Cleaning or etching bath	.079	.032	.052	.022	.262	.109	.124	---	3.58	2.15	cleaned or etched
	- Cleaning or etching rinse	.61	.25	.41	.17	2.03	.85	.96	---	27.82	16.69	cleaned or etched
	- Cleaning or etching scrubber liquor	.85	.35	.56	.23	2.83	1.18	1.34	---	38.66	23.20	cleaned or etched
C	Extrusion											
	- Core	.15	.061	.098	.041	.49	.21	.23	---	6.80	4.07	extruded
	- Extrusion press leakage	.65	.27	.43	.18	2.16	.90	1.02	---	29.56	17.74	extruded
	- Direct chill casting contact cooling water	.59	.24	.39	.16	1.94	.81	.92	---	26.58	15.95	cast
	- Press heat treatment contact cooling water	.90	.37	.59	.25	2.98	1.25	1.41	---	40.74	24.45	quenched
	- Solution heat treatment contact cooling water	.90	.37	.59	.25	2.98	1.25	1.41	---	40.74	24.45	quenched

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

Pollutant limits in mg/off-kg (pounds/million off-pounds)[1] of Aluminum*

Subpart	Subcategory	Chromium Max[2]	Chromium Avg[3]	Cyanide (T) Max	Cyanide (T) Avg	Zinc Max	Zinc Avg	TTO Max	TTO Avg	Oil and Grease[4] Max	Oil and Grease[4] Avg	*Pollutant Unit Basis
	- Cleaning or etching bath	.079	.032	.052	.022	.26	.109	.124	---	3.58	2.15	cleaned or etched
	- Cleaning or etching rinse	.61	.25	.41	.17	2.03	.85	.96	---	27.82	16.69	cleaned or etched
	- Cleaning or etching scrubber liquor	.85	.35	.56	.23	2.82	1.18	1.34	---	38.66	23.20	cleaned or etched
D	Forging											
	- Core	.022	.009	.015	.006	.073	.031	.035	---	1.00	.60	forged
	- Forging scrubber liquor	.042	.017	.028	.011	.14	.058	.065	---	1.89	1.13	forged
	- Solution heat treatment contact cooling water	.897	.37	.591	.25	2.98	1.24	1.41	---	40.74	24.45	quenched
	- Cleaning or etching bath	.079	.032	.052	.022	.26	.11	.123	---	3.58	2.15	cleaned or etched
	- Cleaning or etching rinse	.61	.25	.40	.17	2.03	.85	.96	---	27.82	16.70	cleaned or etched
	- Cleaning or etching scrubber liquor	.851	.35	.561	.23	2.82	1.18	1.34	---	38.66	23.20	cleaned or etched
E	Drawing with Neat Oils											
	- Core	.022	.009	.015	.006	.073	.031	.035	---	1.00	.60	drawn w/neat oils
	- Continuous rod casting lubricant	.0009	.0004	.0006	.0003	.0029	.0012	.0014	---	.040	.024	rod cast
	- Continuous rod casting contact cooling water	.086	.035	.562	.023	.283	.118	.133	---	3.878	2.327	rod cast
	- Solution heat treatment contact cooling water	.896	.367	.591	.245	2.98	1.24	1.41	---	40.74	24.45	quenched
	- Cleaning or etching bath	.079	.033	.052	.022	.262	.109	.124	---	3.58	2.15	cleaned or etched
	- Cleaning or etching rinse	.612	.251	.404	.17	2.03	.85	.96	---	27.82	16.70	cleaned or etched
	- Cleaning or etching scrubber liquor	.851	.348	.561	.232	2.82	1.18	1.34	---	38.66	23.20	cleaned or etched
F	Drawing with Emulsions or Soaps											
	- Core	.205	.084	.135	.056	.681	.285	.32	---	9.33	5.60	drawn w/emulsions or soap
	- Continuous rod casting lubricant	.0009	.0004	.0006	.0003	.0029	.0012	.0014	---	.040	.024	rod cast
	- Continuous rod casting contact cooling water	.086	.035	.056	.024	.283	.119	.134	---	3.88	2.33	rod cast

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

Pollutant limits in mg/off-kg (pounds/million off-pounds)[1] of Aluminum*

Subpart	Subcategory	Chromium		Cyanide (T)		Zinc		TTO		Oil and Grease[4]		*Pollutant Unit Basis
		Max[2]	Avg[3]	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
	- Solution heat treatment contact cooling water	.896	.367	.591	.245	2.98	1.25	1.41	---	40.74	24.44	quenched
	- Cleaning or etching bath	.079	.032	.052	.022	.262	.11	.124	---	3.58	2.15	cleaned or etched
	- Cleaning or etching rinse	.612	.251	.404	.167	2.03	.849	.96	---	27.82	16.69	cleaned or etched
	- Cleaning or etching scrubber liquor	.851	.348	.561	.232	2.82	1.18	1.34	---	38.66	23.20	cleaned or etched

[1]These standards are expressed in terms of mass of pollutant allowed per mass of product produced (off-kg or off-pound) in the given process. Off-kilogram or off-pound is defined as the mass of aluminum or aluminum alloy removed from a forming or ancillary operation at the end of a process cycle for transfer to a different machine or process.
[2]Max = Maximum pollutant discharge for any one day.
[3]Avg = Maximum pollutant discharge for a monthly average of all samples collected.
[4]Oil and grease is an alternative monitoring parameter for total toxic organics (TTO) under provisions of the aluminum forming category.

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Pollutant limits in mg/off-kg (pounds/million off-pounds)[1] of Aluminum*

Subpart	Subcategory	Chromium Max[2]	Chromium Avg[3]	Cyanide (T) Max	Cyanide (T) Avg	Zinc Max	Zinc Avg	TTO Max	TTO Avg	Oil and Grease[4] Max	Oil and Grease[4] Avg	*Pollutant Unit Basis
A	Rolling with Neat Oils											
	- Core with annealing furnace scrubber	.030	.013	.017	.007	.084	.035	.057	---	.817	.817	rolled w/neat oils
	- Core without annealing furnace scrubber	.021	.009	.011	.005	.057	.024	.038	---	.54	.54	rolled w/neat oils
	- Continuous sheet casting lubricant	.00073	.00029	.00039	.00016	.0020	.00082	.0014	---	.020	.020	cast
	- Solution heat treatment contact cooling water	.76	.31	.41	.17	2.08	.86	1.41	---	20.37	20.37	quenched
	- Cleaning or etching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79	cleaned or etched
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91	cleaned or etched
	- Cleaning or etching scrubber liquor	.72	.29	.39	.16	1.97	.81	1.34	---	19.33	19.33	cleaned or etched
B	Rolling with Emulsions											
	- Core	.048	.020	.026	.011	.133	.055	.090	---	1.30	1.30	rolled w/emulsions
	- Direct chill casting contact cooling water	.49	.20	.27	.11	1.36	.56	.92	---	13.29	13.29	cast by semi-continuous methods
	- Solution heat treatment contact cooling water	.76	.31	.41	.17	2.08	.86	1.41	---	20.37	20.37	quenched
	- Cleaning or etching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79	cleaned or etched
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91	cleaned or etched
	- Cleaning or etching scrubber liquor	.72	.29	.39	.16	1.97	.81	1.34	---	19.33	19.33	cleaned or etched
C	Extrusion											
	- Core	.13	.05	.07	.03	.35	.15	.24	---	3.40	3.40	extruded
	- Extrusion press leakage	.11	.05	.06	.03	.31	.13	.21	---	2.98	2.98	extruded
	- Direct chill casting contact cooling water	.49	.20	.27	.11	1.36	.56	.92	---	13.29	13.29	cast
	- Press heat treatment contact cooling water	.76	.31	.41	.17	2.08	.86	1.41	---	20.37	20.37	quenched
	- Solution heat treatment contact cooling water	.76	.31	.41	.17	2.08	.86	1.41	---	20.37	20.37	quenched

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

Pollutant limits in mg/off kg (pounds/million off-pounds)[1] of Aluminum*

Subpart	Subcategory	Chromium Max[2]	Chromium Avg[3]	Cyanide (T) Max	Cyanide (T) Avg	Zinc Max	Zinc Avg	TTO Max	TTO Avg	Oil and Grease[4] Max	Oil and Grease[4] Avg	*Pollutant Unit Basis
	- Cleaning or retching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79	cleaned or etched
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91	cleaned or etched
	- Cleaning or etching scrubber liquor	.72	.29	.39	.16	1.97	.81	1.34	---	19.33	19.33	cleaned or etched
D	Forging											
	- Core	.019	.008	.010	.004	.051	.021	.035	---	.50	.50	forged
	- Forging scrubber liquor	.035	.014	.019	.008	.096	.040	.065	---	.95	.95	forged
	- Solution heat treatment contact cooling water	.76	.31	.41	.16	2.08	.86	1.41	---	20.37	20.37	quenched
	- Cleaning or etching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79	cleaned or etched
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91	cleaned or etched
	- Cleaning or etching scrubber liquor	.72	.29	.39	.16	1.97	.812	1.34	---	19.33	19.33	cleaned or etched
E	Drawing with Neat Oils											
	- Core	.019	.008	.010	.004	.051	.021	.035	---	.50	.50	drawn w/neat oils
	- Continuous rod casting lubricant	.0007	.0003	.0004	.0002	.0020	.0008	.0014	---	.020	.020	rod cast
	- Continuous rod casting contact cooling water	.072	.029	.039	.016	.198	.082	.134	---	1.94	1.94	rod cast
	- Solution heat treatment contact cooling water	.76	.306	.41	.183	2.08	.856	1.41	---	20.37	20.37	quenched
	- Cleaning or etching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79	cleaned or etched
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91	cleaned or etched
	- Cleaning or etching scrubber liquor	.72	.29	.39	.16	1.97	.812	1.34	---	19.33	19.33	cleaned or etched
F	Drawing with Emulsions or Soaps											
	- Core	.173	.070	.094	.038	.48	.196	.32	---	4.67	4.67	drawn w/emulsions or soap
	- Continuous rod casting lubricant	.0008	.0003	.0004	.0002	.0020	.0008	.0014	---	.020	.020	rod cast
	- Continuous rod casting contact cooling water	.072	.029	.039	.016	.198	.082	.134	---	1.94	1.94	rod cast

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

Pollutant limits in mg/off-kg (pounds/million off-pounds)[1] of Aluminum*

		Chromium		Cyanide		Zinc		TTO		Oil and Grease[4]		*Pollutant Unit Basis
Subpart	Subcategory	Max[2]	Avg[3]	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
	- Solution heat treatment contact cooling water	.76	.306	.41	.163	2.08	.856	1.41	---	20.37	20.37	quenched
	- Cleaning or etching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79	cleaned or etched
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91	cleaned or etched
	- Cleaning or etching scrubber liquor	.715	.290	.387	.155	1.97	.812	1.34	---	19.33	19.33	cleaned or etched

[1]These standards are expressed in terms of mass of pollutant allowed per mass of product produced (off-kg or off-pound) in the given process. Off-kilogram or off-pound is defined as the mass of aluminum or aluminum alloy removed from a forming or ancillary operation at the end of a process cycle for transfer to a different machine or process.
[2]Max = Maximum pollutant discharge for any one day.
[3]Avg = Maximum pollutant discharge for a monthly average of samples collected.
[4]Oil and grease is an alternative monitoring parameter for total toxic organics (TTO) under provisions of the aluminum forming category.

40 CFR PART 461

BATTERY MANUFACTURING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms subject to the Battery Manufacturing Categorical Standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Battery Manufacturing Standards were established by the Environmental Protection Agency (EPA) under Part 461 of Title 40 of the Code of Federal Regulations (40 CFR 461). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	November 10, 1982	Vol. 47, p. 51052
Final Rule	March 9, 1984	Vol. 49, p. 9108
Corrections	April 9, 1984	Vol. 49, p. 13879
	July 9, 1984	Vol. 49, p. 27946
Final Rule-Amendments	August 28, 1986	Vol. 51, p. 30814

APPLICABLE DATES

Effective Date: April 23, 1984
Baseline Monitoring Report (BMR) Due Date: October 20, 1984
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): March 9, 1987
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES AFFECTED

The Battery Manufacturing category is divided into seven subcategories based primarily on the active anode material used by firms in each subcategory. The subcategories that are affected by these regulations are:

Subcategory A - Cadmium
Subcategory B - Calcium
Subcategory C - Lead
Subcategory D - Leclanche
Subcategory E - Lithium
Subcategory F - Magnesium
Subcategory G - Zinc

Industries in the Battery Manufacturing Category are generally included within Standard Industrial Classification (SIC) codes 3691 and 3692.

REGULATED POLLUTANTS

The pollutants regulated by the Battery Manufacturing categorical standards are cadmium, chromium, cobalt, copper, cyanide, lead, manganese, mercury, nickel, silver, and zinc. Not all of these pollutants are regulated in each of the subcategories. Limits were promulgated only if the pollutant was found in a significant concentration in the raw waste water.

PRETREATMENT STANDARDS FOR EXISTING AND NEW SOURCES (PSES AND PSNS)

PSES and PSNS for all seven subcategories are summarized in the following tables. Pretreatment Standards for Existing Sources (PSES) were not promulgated for Subcategories B and E because of the small amount and low level of toxicity of the discharges from industries in these subcategories. Pretreatment Standards for New Sources (PSNS) were promulgated for all subcategories. The "Max" Standards are the maximum levels of pollutants for any one day. The "Avg" Standards are the maximum levels of pollutants for a monthly average of all samples taken. All standards are mass-based in units of mg/kg (pounds/million pounds) of material indicated for each process.

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

SUBCATEGORY A - Cadmium

See the table on page 3.

SUBCATEGORY B - Calcium

Reserved

SUBCATEGORY C - Lead

Pollutant limits in mg/kg (pounds/million pounds) of lead used

	Copper		Lead	
Process	Max	Avg	Max	Avg
(1) Open Formation - Dehydrated	3.19	1.68	.71	.34
(2) Open Formation - Wet	.100	.053	.022	.010
(3) Plate Soak	.039	.021	.008	.004
(4) Battery Wash - Detergent	1.71	.90	.38	.18
(5) Direct Chill Lead - Casting	.0004	.0002	.00008	.00004
(6) Mold Release Formulation	.011	.006	.002	.001
(7) Truck Wash*	.026	.014	.005	.002
(8) Laundry	.21	.11	.05	.02
(9) Miscellaneous Wastewater Streams	.58	.31	.13	.06

*Pollutant limits based on mg/kg (pounds/million pounds) of lead on trucked batteries.

BATTERY MANUFACTURING (cont.)

SUBCATEGORY A - CADMIUM

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant in mg/kg (pounds/million pounds) of material*

Process	Cadmium		Nickel		Zinc		Cobalt		Silver		*Pollutant Unit Basis
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
(1) Electrodeposited Anodes	11.95	5.27	67.49	44.64	51.32	21.44	7.38	3.16	--	--	cadmium
(2) Impregnated Anodes	68.0	30.0	384.0	254.0	292.0	122.0	42.0	18.0	--	--	cadmium
(3) Nickel Electrodeposited Cathodes	11.22	4.95	63.36	41.91	48.18	20.13	6.93	2.97	--	--	nickel applied
(4) Nickel Impregnated Cathodes	68.0	30.0	384.0	254.0	292.0	122.0	42.0	18.0	--	--	nickel applied
(5) Miscellaneous Wastewater Streams	0.79	0.35	4.47	2.96	3.40	1.42	0.49	0.21	--	--	cells produced
(6) Cadmium Powder Production	2.23	0.99	12.61	8.34	9.59	4.01	1.38	0.59	--	--	cadmium powder produced
(7) Silver Powder Production	1.09	0.48	6.16	4.08	4.69	1.96	.67	.29	1.32	.55	silver power produced
(8) Cadmium Hydroxide Production	0.05	0.02	0.27	0.18	0.20	0.09	0.03	0.012	--	--	cadmium used
(9) Nickel Hydroxide Production	5.61	2.48	31.68	20.96	24.09	10.07	3.47	1.49	--	--	nickel used

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

SUBCATEGORY D - Leclanche

There shall be no discharge allowance for process wastewater pollutants other than the following:

Pollutant limits in mg/kg (pounds/million pounds) of cells produced

	Mercury		Zinc		Manganese	
Process	Max	Avg	Max	Avg	Max	Avg
Foliar Battery Miscellaneous Wash	.010	.004	.067	.030	.019	.015

SUBCATEGORY E - Lithium

Reserved

SUBCATEGORY F - Magnesium

Pollutant limits in mg/kg (pounds/million pounds) of material*

	Lead		Silver		*Pollutant
Process	Max	Avg	Max	Avg	Unit Basis
(1) Silver Chloride Cathodes - Chemically Reduced	1032.36	491.6	1007.78	417.86	silver processed
(2) Silver Chloride Cathodes - Electrolytic	60.9	29.0	59.5	24.7	silver processed
(3) Cell Testing	22.1	10.5	21.6	8.9	cells produced
(4) Floor and Equipment Wash	0.039	0.018	0.038	0.015	cells produced

SUBCATEGORY G - Zinc

See the table on page 5.

BATTERY MANUFACTURING (cont.)

SUBCATEGORY G - ZINC

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant in mg/kg (pounds/million pounds) of material*

	Chromium		Mercury		Silver		Zinc		Manganese		Nickel		Cyanide		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
(1) Wet Amalgamated Powder Anode	0.24	0.099	0.14	0.055	0.23	0.093	0.80	0.34	0.37	0.16	--	--	--	--	zinc
(2) Gelled Amalgam Anodes	0.030	0.12	0.017	0.006	0.028	0.012	0.099	0.042	0.046	0.020	--	--	--	--	zinc
(3) Zinc Oxide Formed Anodes	9.53	3.90	5.42	2.17	8.89	3.68	31.64	13.22	14.74	6.28	--	--	--	--	zinc
(4) Electrodeposited Anodes	94.47	38.65	53.68	21.47	88.03	36.50	313.46	130.97	146.0	62.26	--	--	--	--	zinc deposited
(5) Silver Powder Formed Cathodes	13.07	5.35	7.43	2.97	12.18	5.05	43.36	18.12	20.20	8.61	--	--	--	--	zinc applied
(6) Silver Oxide Powder Formed Cathodes	8.73	3.57	4.96	1.99	8.14	3.37	28.98	12.11	13.5	5.76	--	--	--	--	silver applied
(7) Silver Peroxide Cathodes	2.09	0.87	1.19	0.48	1.95	0.81	6.95	2.90	3.24	1.38	--	--	--	--	silver applied
(8) Nickel Impregnated Cathodes	88.0	36.0	50.0	20.0	82.0	34.0	292.0	122.0	136.0	58.0	384.0	254.0	--	--	nickel applied
(9) Miscellaneous Wastewater Streams	0.57	0.23	0.32	0.13	0.53	0.22	1.88	0.79	0.88	0.37	2.48	1.64	0.38	0.16	cells produced
(10) Silver Etch	3.27	1.34	1.86	0.74	3.05	1.26	10.86	4.54	5.06	2.16	--	--	--	--	silver processed
(11) Silver Peroxide Production	3.48	1.42	1.98	0.79	3.24	1.34	11.55	4.83	5.38	2.29	--	--	--	--	silver in silver peroxide produced
(12) Silver Powder Production	1.41	0.58	0.80	0.32	1.32	0.55	4.69	1.96	2.18	0.93	--	--	--	--	silver power produced

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

SUBCATEGORY A - Cadmium

See the table on page 7.

SUBCATEGORY B - Calcium

There shall be no discharge for process wastewater pollutants from any battery manufacturing operations in the calcium subcategory.

SUBCATEGORY C - Lead

Pollutant limits in mg/kg (pounds/million pounds) of lead used

	Copper		Lead	
Process	Max	Avg	Max	Avg
(1) Open Formation - Dehydrated	2.15	1.02	.47	.21
(2) Open Formation - Wet	.067	.032	.014	.006
(3) Plate Soak	.026	.012	.005	.002
(4) Battery Wash - Detergent	1.152	.549	.252	.117
(5) Direct Chill Lead Casting	.000256	.000122	.000056	.000026
(6) Mold Release Formulation	.007	.0037	.0017	.0008
(7) Truck Wash*	.006	.003	.001	.0007
(8) Laundry	.14	.07	.03	.01
(9) Miscellaneous Wastewater Streams	.39	.19	.085	.039

*Pollutant limits in mg/kg (pound/million pounds) of lead in trucked batteries.

SUBCATEGORY D - Leclanche

There shall be no discharge allowance for process wastewater pollutants other than the following:

Pollutant in mg/kg (pounds/million pounds) of cells produced

	Mercury		Zinc		Manganese	
Process	Max	Avg	Max	Avg	Max	Avg
Foliar Battery Miscellaneous Wash	.010	.004	.067	.030	.019	.015

BATTERY MANUFACTURING (cont.)

SUBCATEGORY A - CADMIUM

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Pollutant in mg/kg (pounds/million pounds) of material*

Process	Cadmium		Nickel		Zinc		Cobalt		Silver		*Pollutant Unit Basis
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
(1) Electrodeposited Anodes	7.03	2.81	19.33	13.01	35.85	14.76	4.92	2.46	--	--	cadmium
(2) Impregnated Anodes	40.0	16.0	110.0	74.0	204.0	84.0	28.0	14.0	--	--	cadmium
(3) Nickel Electrodeposited Cathodes	6.60	2.64	18.15	12.21	33.66	13.86	4.62	2.31	--	--	nickel applied
(4) Nickel Impregnated Cathodes	40.0	16.0	110.0	74.0	204.0	84.0	28.0	14.0	--	--	nickel applied
(5) Miscellaneous Wastewater Streams	.47	.19	1.28	.86	2.38	.98	.33	.16	--	--	cells produced
(6) Cadmium Powder Production	1.31	.53	3.61	2.43	6.7	2.76	.92	.46	--	--	cadmium powder produced
(7) Silver Powder Production	.64	.26	1.77	1.19	3.27	1.35	.45	.22	.93	.39	silver power produced
(8) Cadmium Hydroxide Production	.028	.011	.077	.051	.142	.058	.019	.009	--	--	cadmium used
(9) Nickel Hydroxide Production	3.30	1.32	9.08	6.11	16.83	6.93	2.31	1.16	--	--	nickel used

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

SUBCATEGORY E - Lithium

Pollutant limits in mg/kg (pounds/million pounds) of material*

Process	Chromium Max	Chromium Avg	Lead Max	Lead Avg	*Pollutant Unit Basis
(1) Lead Iodide Cathodes	23.34	9.46	17.66	8.20	lead
(2) Iron Disulfide Cathodes	2.79	1.13	2.11	0.98	iron disulfide
(3) Miscellaneous Wastewater Streams	.039	.016	.030	.014	cells produced

SUBCATEGORY F - Magnesium

Pollutant in mg/kg (pounds/million pounds) of material*

Process	Lead Max	Lead Avg	Silver Max	Silver Avg	*Pollutant Unit Basis
(1) Silver Chloride Cathodes - Chemically Reduced	22.93	10.65	23.75	9.83	silver processed
(2) Silver Chloride Cathodes - Electrolytic	40.6	18.9	42.1	17.4	silver processed
(3) Cell Testing	19.5	7.89	15.3	6.31	cells produced
(4) Floor and Equipment Wash	0.026	0.012	0.027	0.011	cells produced

SUBCATEGORY G - Zinc

See the table on page 9.

BATTERY MANUFACTURING (cont.)

SUBCATEGORY G - ZINC

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Pollutant in mg/kg (pounds/million in pounds) of material*

Process	Chromium		Mercury		Silver		Zinc		Manganese		Nickel		Cyanide		*Pollutant Unit Basis
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
(1) Zinc Oxide Formed Anodes	4.55	1.97	2.82	1.19	4.55	1.97	0.87	0.39	6.5	4.98	--	--	--	--	zinc
(2) Electrodeposited Anodes	45.09	19.54	27.91	11.81	45.09	19.54	8.59	3.86	64.41	49.38	--	--	--	--	zinc deposited
(3) Silver Powder Formed Cathodes	6.24	2.70	3.86	1.63	6.24	2.70	1.19	0.53	8.91	6.83	--	--	--	--	silver applied
(4) Silver Oxide Powder Formed Cathodes	4.17	1.81	2.58	1.09	4.17	1.81	0.79	0.36	5.96	4.57	--	--	--	--	silver applied
(5) Silver Peroxide Cathodes	1.00	0.43	0.62	0.26	1.00	0.43	0.19	0.09	1.43	1.09	--	--	--	--	silver applied
(6) Nickel Impregnated Cathodes	42.0	18.2	26.0	11.0	42.0	18.2	8.0	3.6	60.0	46.0	42.0	18.2	--	--	nickel applied
(7) Miscellaneous Wastewater Streams	0.27	0.12	0.17	0.07	0.27	0.12	0.05	0.02	0.39	0.30	0.27	0.12	0.039	0.016	cell produced
(8) Silver Etch	1.56	0.68	0.97	0.41	1.56	0.68	0.30	0.13	2.23	1.71	--	--	--	--	silver processed
(9) Silver Peroxide Production	1.66	0.72	1.03	0.44	1.66	0.72	0.32	0.14	2.37	1.82	--	--	--	--	silver in silver peroxide produced
(10) Silver Powder Production	0.67	0.29	0.42	0.18	0.67	0.29	0.13	0.06	0.96	0.74	--	--	--	--	silver power produced

40 CFR PART 434

COAL MINING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms in the Coal Mining industrial category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards. The Coal Mining industry was established by the Environmental Protection Agency under Part 434 of Title 40 of the Code of Federal Regulations (40 CFR 434). No pretreatment standards were established for this industrial category. There are no indirect dischargers known and none are known to be planned. Coal mines are generally located in rural areas far from a POTW; on-site treatment and direct discharge is more cost effective in virtually every case. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	January 13, 1981	Vol. 46, p. 3136
Final Rule	October 13, 1982	Vol. 47, p. 45382
Correction	November 1, 1983	Vol. 48, p. 50321
Technical Amendment	January 31, 1985	Vol. 50, p. 4513
Final Rule	October 9, 1985	Vol. 50, p. 41296

APPLICABLE DATES

Effective Date:	November 26, 1982
Compliance Dates:	--

40 CFR PART 465

COIL COATING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Coil Coating category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this industrial category. The Coil Coating categorical standards were established by the Environmental Protection Agency in Part 465 of Title 40 of the Code of Federal Regulations (40 CFR 465). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule (Phase I)	January 12, 1981	Vol. 46, p. 2934
Final Rule (Phase I)	December 1, 1982	Vol. 47, p. 54232
Proposed Rule (Phase II)	February 10, 1983	Vol. 48, p. 6268
Amendment	July 8, 1983	Vol. 48, p. 31403
Amendment	September 15, 1983	Vol. 48, p. 41409
Final Rule (Phase II) (Subcategory D, Canmaking)	November 17, 1983	Vol. 48, p. 52380
Corrections	April 10, 1984	Vol. 49, p. 14104
	August 24, 1984	Vol. 49, p. 33648
Amendment	January 31, 1985	Vol. 50, p. 4513

APPLICABLE DATES

Effective Dates:	January 17, 1983 (Subcategories A, B & C) January 2, 1984 (Subcategory D)
Baseline Monitoring Report (BMR) Due Dates	July 16, 1983 (Subcategories A, B & C) June 30, 1984 (Subcategory D)

Compliance Dates:

- Pretreatment Standards Existing Sources (PSES):
  - Phase I (Subcategories A, B & C): December 1, 1985
  - Phase II (Subcategory D): November 17, 1986
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES AFFECTED[1]

The Coil Coating category has been divided into four subcategories based on raw materials used or processes operated. The four subcategories are listed below along with four-digit SIC codes that may be used to identify facilities subject to standards established for this industrial category. The SIC codes are intended to be used as guidance only.

	Subcategory	SIC Codes
A.	Steel Basis Material	3479
B.	Galvanized Basis Material	3479
C.	Aluminum Basis Material	3479, 3497
D.	Canmaking	3411

REGULATED POLLUTANTS

All of the pollutant limits established for the Coil Coating category are mass-based limits. Industries regulated under Subcategories A and C have limits on their discharges of chromium, cyanide, and zinc. Industries regulated under Subcategory B have limits on their discharges of chromium, copper, cyanide, and zinc.

Industries regulated under Subcategory D (Canmaking) have limits on their discharges of chromium, copper, zinc, fluoride, phosphorus, manganese, and total toxic organics (TTO). For this industrial category, total toxic organics (TTO) is defined in 40 CFR 465.02(j) as the sum of the mass of each of the following toxic organic compounds that are found at a concentration greater than 0.01 mg/l.

1,1,1-trichloroethane
1,1-dichlorethane
1,1,2,2-tetrachloroethane
bis (2-chloroethyl) ether
chloroform
1,1-dichloroethylene
methylene chloride
pentachlorophenol
bis (2-ethylhexyl)phthalate
butyl benzyl phthalate
Di-N-butyl phthalate
phthalate
phenanthrene
tetrachloroethylene
toluene

As an alternative to monitoring for TTO, indirect dischargers in Subcategory D may measure and limit oil and grease to the levels established by PSES and PSNS. Any indirect discharger meeting the alternative oil and grease standards will be considered to be meeting the appropriate TTO standards. Oil and grease concentrations are to be determined by the method outlined in 40 CFR 465.03(c).

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[1]Source: Summary of the Effluent Guidelines Division Rulemaking Activities, U.S. Environmental Protection Agency, July 1983.

As outlined by EPA in the Guidance Manual for Implementing Total Toxic Organics (TTO) Pretreatment Standards, industrial dischargers subject to standards for TTO are required to submit the results of monitoring for all 14 regulated toxic organics or the results of oil and grease monitoring to the Control Authority in the BMR, the 90-day compliance report, and subsequent semiannual reports on continued compliance.

The regulations provide Coil Coating facilities with an exemption from periodic cyanide monitoring if they meet the following two conditions:

(1) The first wastewater sample that is collected in each calandar year contains less than 0.07 mg/l cyanide, and

(2) The owner or operator of the facility certifies in writing to the Control Authority that cyanide is not used in its coil coating process.

SUB CATEGORY A - STEEL BASIS MATERIALS

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.50	0.10	0.20	0.041
Cyanide	0.34	0.07	0.14	0.029
Zinc	1.56	0.32	0.66	0.14

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.120	0.024	0.047	0.010
Cyanide	0.063	0.013	0.025	0.005
Zinc	0.330	0.066	0.140	0.027

COIL COATING (cont.)

SUBCATEGORY B - GALVANIZED BASIS MATERIAL

PSES

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.37	0.077	0.16	0.031
Copper	1.71	0.35	0.90	0.19
Cyanide	0.26	0.053	0.11	0.022
Zinc	1.20	0.25	0.51	0.11

PSNS

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.13	0.027	0.052	0.011
Copper	0.44	0.090	0.21	0.043
Cyanide	0.07	0.015	0.028	0.006
Zinc	0.35	0.072	0.15	0.030

COIL COATING (cont.)

SUBCATEGORY C - ALUMINUM BASIS MATERIAL

PSES

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.42	0.085	0.17	0.034
Cyanide	0.29	0.059	0.12	0.024
Zinc	1.32	0.27	0.56	0.12

PSNS

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.18	0.037	0.072	0.015
Cyanide	0.095	0.02	0.038	0.008
Zinc	0.49	0.10	0.20	0.041

SUBCATEGORY D - CANMAKING

In this subcategory, only cans that are washed at the point of manufacture are regulated. No process wastewater is generated from the manufacture of seamed cans, seamless cans made from coated stock, can ends, or can tops.

PSES

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	Grams per 1 million cans manufactured	Pounds per 1 million cans manufactured	Grams per 1 million cans manufactured	Pounds per 1 million cans manufactured
Chromium	36.92	.081	15.10	.033
Copper	159.41	.351	83.90	.185
Zinc	122.49	.270	51.18	.113
Fluoride	4992.05	11.001	2214.96	4.883
Phosphorus	1401.13	3.089	573.04	1.263
Manganese	57.05	.126	24.33	.053
TTO	26.85	.059	12.59	.028
Oil and Grease[1]	1678.00	3.699	1006.80	2.220

PSNS

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	Grams per 1 million cans manufactured	Pounds per 1 million cans manufactured	Grams per 1 million cans manufactured	Pounds per 1 million cans manufactured
Chromium	27.98	.0617	11.45	.025
Copper	120.84	.267	63.60	.140
Zinc	92.86	.205	38.80	.086
Fluoride	3784.20	8.345	1679.04	3.702
Phosphorus	1062.12	2.342	434.39	.958
Manganese	43.25	.095	18.44	.041
TTO	20.35	.045	9.54	.021
Oil and Grease[1]	1272.00	2.804	763.20	1.683

[1]Oil and grease is an alternative monitoring parameter for TTO.

40 CFR PART 468

COPPER FORMING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Copper Forming category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with standards for this industrial category. The Copper Forming categorical standards were established by the Environmental Protection Agency in Part 468 of Title 40 of the Code of Federal Regulations (40 CFR 468). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	November 12, 1982	Vol. 47, p. 51278
Final Rule	August 15, 1983	Vol. 48, p. 36942
Amendment	September 15, 1983	Vol. 48, p. 41409
Correction	November 3, 1983	Vol. 48, p. 50717
Proposed Rule	June 24, 1985	Vol. 50, p. 26128
Amendment	August 23, 1985	Vol. 50, p. 34334
Final Regulation	March 5, 1986	Vol. 51, p. 7568
Correction	June 20, 1986	Vol. 51, p. 22520

APPLICABLE DATES

Effective Date: September 26, 1983
Baseline Monitoring Report (BMR) Due Date: March 25, 1984
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): August 15, 1986
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES

The Copper Forming industry is regulated as a single subcategory. Discharges resulting from hot rolling, cold rolling, drawing, extrusion, and forging operations are covered under this subcategory. PSES and PSNS have been established for wastewaters generated by these five principal forming operations and several different ancillary copper forming processes.

REGULATED POLLUTANTS

The pollutants regulated by the Copper Forming categorical standards are chromium, copper, lead, nickel, zinc, total toxic organics (TTO), and oil and grease. For this category, the term total toxic organics (TTO) is defined in 40 CFR 468.02(r) as the sum of the masses or concentrations of each of the following compounds found at a concentration greater than 0.01 mg/l.

benzene	naphthalene
1,1,1-trichloroethane	N-nitorsodiphenylamine
chloroform	anthracene
2,6-dinitrotoluene	phenanthrene
ethylbenzene	toluene
methylene chloride	trichloroethylene

Oil and grease is regulated by this category as an alternative to monitoring and meeting the standards for total toxic organics (TTO). Indirect dischargers may monitor their discharges of oil and grease and meet the alternative monitoring levels established for oil and grease rather than monitoring for TTO. Any indirect discharger meeting the alternative oil and grease monitoring level will be considered to meet the TTO standard. As outlined by EPA in the Guidance Manual for Implementing Total Toxic Organics (TTO) Pretreatment Standards, industrial discharges subject to standards for TTO are required to submit the results of monitoring for all 12 regulated toxic organics or the results of oil and grease monitoring to the Control Authority in the BMR, the 90-day compliance report, and subsequent semiannual reports on continued compliance.

All limits established by the copper forming standards are mass-based and are expressed in units of mg/off-kg (equivalent to lbs/1,000,000 off-lbs). Off-kg and off-lb are measures of the mass of copper or copper alloy removed from a forming or ancillary operation at the end of a process cycle for transfer to a different machine or process.

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)
FOR HOT ROLLING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.045	0.018
Copper	0.195	0.103
Lead	0.015	0.013
Nickel	0.197	0.130
Zinc	0.150	0.062
TTO	0.066	0.035
Oil and Grease[1]	2.060	1.236

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy hot rolled

PSES FOR COLD ROLLING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.166	0.068
Copper	0.720	0.379
Lead	0.056	0.049
Nickel	0.727	0.481
Zinc	0.553	0.231
TTO	0.246	0.128
Oil and Grease[1]	7.580	4.548

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy cold rolled

PSES FOR DRAWING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.037	0.015
Copper	0.161	0.085
Lead	0.012	0.011
Nickel	0.163	0.107
Zinc	0.124	0.051
TTO	0.055	0.028
Oil and Grease[1]	1.700	1.020

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy drawn

PSES FOR SOLUTION HEAT TREATMENT

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.284	0.116
Copper	1.227	0.646
Lead	0.096	0.083
Nickel	1.240	0.820
Zinc	0.943	0.394
TTO	0.419	0.219
Oil and Grease[1]	12.920	7.752

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy heat treated

PSES FOR EXTRUSION HEAT TREATMENT

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.00088	0.00036
Copper	0.0030	0.0020
Lead	0.00030	0.00026
Nickel	0.0030	0.0020
Zinc	0.0020	0.0010
TTO	0.0010	0.00068
Oil and Grease[1]	0.040	0.024

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy heat treated on an extrusion press

PSES FOR ANNEALING WITH WATER

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.545	0.223
Copper	2.356	1.240
Lead	0.186	0.161
Nickel	2.380	1.574
Zinc	1.810	0.756
TTO	0.806	0.421
Oil and Grease[1]	24.800	14.880

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy annealed with water

PSES FOR ANNEALING WITH OIL

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0	0
Copper	0	0
Lead	0	0
Nickel	0	0
Zinc	0	0
TTO	0	0
Oil and Grease[1]	0	0

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy annealed with oil

PSES FOR ALKALINE CLEANING RINSE

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	1.854	0.758
Copper	8.006	4.214
Lead	0.632	0.547
Nickel	8.090	5.351
Zinc	6.152	2.570
TTO	2.739	1.432
Oil and Grease[1]	84.280	50.568

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy alkaline cleaned

PSES FOR ALKALINE CLEANING RINSE FOR FORGED PARTS

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	5.562	2.275
Copper	24.019	12.642
Lead	1.896	1.643
Nickel	24.272	16.055
Zinc	18.457	7.711
TTO	8.217	4.298
Oil and Grease[1]	252.840	151.704

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy forged parts alkaline cleaned

PSES FOR ALKALINE CLEANING BATH

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.020	0.0084
Copper	0.088	0.046
Lead	0.0070	0.0060
Nickel	0.089	0.059
Zinc	0.068	0.028
TTO	0.030	0.015
Oil and Grease[1]	0.93	0.56

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy alkaline cleaned

PSES FOR PICKLING RINSE

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.574	0.235
Copper	2.481	1.306
Lead	0.195	0.169
Nickel	2.507	1.658
Zinc	1.906	0.796
TTO	0.848	0.444
Oil and Grease[1]	26.120	15.672

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy pickled

PSES FOR PICKLING RINSE FOR FORGED PARTS

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	1.723	0.705
Copper	7.444	3.918
Lead	0.587	0.509
Nickel	7.522	4.975
Zinc	5.720	2.389
TTO	2.546	1.332
Oil and Grease[1]	78.360	47.016

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy forged parts pickled

PSES FOR PICKLING BATH

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.051	0.020
Copper	0.220	0.116
Lead	0.017	0.015
Nickel	0.222	0.147
Zinc	0.169	0.070
TTO	0.075	0.039
Oil and Grease[1]	2.320	1.392

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy pickled

PSES FOR PICKLING FUME SCRUBBER

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.275	0.112
Copper	1.189	0.626
Lead	0.093	0.081
Nickel	1.201	0.795
Zinc	0.913	0.381
TTO	0.406	0.212
Oil and Grease[1]	12.520	7.512

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy pickled

PSES FOR TUMBLING OR BURNISHING

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.256	0.104
Copper	1.107	0.583
Lead	0.087	0.075
Nickel	1.119	0.740
Zinc	0.851	0.355
TTO	0.378	0.198
Oil and Grease[1]	11.660	6.996

*mg/off-kg (pounds/million off-pounds) of copper or copper tumbled or burnished

PSES FOR SURFACE COATING

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.326	0.133
Copper	1.411	0.743
Lead	0.111	0.096
Nickel	1.426	0.943
Zinc	1.084	0.453
TTO	0.482	0.252
Oil and Grease[1]	14.860	8.916

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy surface coated

PSES FOR MISCELLANEOUS WASTE STREAMS

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.009	0.003
Copper	0.041	0.021
Lead	0.003	0.002
Nickel	0.041	0.027
Zinc	0.031	0.013
TTO	0.014	0.007
Oil and Grease[1]	0.436	0.261

*mg/off-kg (pound/million off-pound) of copper or copper alloy formed

[1]Oil and grease is an alternative monitoring parameter for total toxic organics (TTO)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) FOR HOT ROLLING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.038	0.015
Copper	0.131	0.062
Lead	0.010	0.0092
Nickel	0.056	0.038
Zinc	0.105	0.043
TTO	0.035	0.035
Oil and Grease[1]	1.030	1.030

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy hot rolled

PSNS FOR COLD ROLLING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.140	0.056
Copper	0.485	0.231
Lead	0.037	0.034
Nickel	0.208	0.140
Zinc	0.386	0.159
TTO	0.128	0.128
Oil and Grease[1]	3.790	3.790

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy cold rolled

PSNS FOR DRAWING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.031	0.012
Copper	0.106	0.051
Lead	0.0085	0.0076
Nickel	0.046	0.031
Zinc	0.086	0.035
TTO	0.028	0.028
Oil and Grease[1]	0.850	0.850

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy drawn

PSNS FOR SOLUTION HEAT TREATMENT

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.239	0.096
Copper	0.826	0.394
Lead	0.064	0.058
Nickel	0.355	0.239
Zinc	0.658	0.271
TTO	0.219	0.219
Oil and Grease[1]	6.460	6.460

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy heat treated

PSNS FOR EXTRUSION HEAT TREATMENT

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.00074	0.00030
Copper	0.0020	0.0010
Lead	0.00020	0.00018
Nickel	0.0010	0.00074
Zinc	0.0020	0.00084
TTO	0.00068	0.00068
Oil and Grease[1]	0.020	0.020

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy heat treated on an extrusion press

PSNS FOR ANNEALING WITH WATER

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.458	0.186
Copper	1.587	0.756
Lead	0.124	0.111
Nickel	0.682	0.458
Zinc	1.264	0.520
TTO	0.421	0.421
Oil and Grease[1]	12.400	12.400

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy annealed with water

PSNS FOR ANNEALING WITH OIL

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0	0
Copper	0	0
Lead	0	0
Nickel	0	0
Zinc	0	0
TTO	0	0
Oil and Grease[1]	0	0

*mg/off-mg (pounds/million off-pounds) of copper or copper alloy annealed with oil

PSNS FOR ALKALINE CLEANING RINSE

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	1.559	0.632
Copper	5.393	2.570
Lead	0.421	0.379
Nickel	2.317	1.559
Zinc	4.298	1.769
TTO	1.432	1.432
Oil and Grease[1]	42.140	42.140

mg/off-kg (pounds/million off-pounds) of copper or copper alloy alkaline cleaned

PSNS FOR ALKALINE CLEANING RINSE FOR FORGED PARTS

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	4.677	1.896
Copper	16.181	7.711
Lead	1.264	1.137
Nickel	6.953	4.677
Zinc	12.894	5.309
TTO	4.298	4.298
Oil and Grease[1]	126.420	126.420

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy forged parts alkaline cleaned

PSNS FOR ALKALINE CLEANING BATH

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.017	0.0070
Copper	0.059	0.028
Lead	0.0046	0.0042
Nickel	0.025	0.017
Zinc	0.047	0.019
TTO	0.015	0.015
Oil and Grease[1]	0.46	0.46

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy alkaline cleaned

PSNS FOR PICKLING RINSE

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.216	0.087
Copper	0.748	0.356
Lead	0.058	0.052
Nickel	0.321	0.216
Zinc	0.596	0.245
TTO	0.198	0.198
Oil and Grease[1]	5.850	5.850

*mg/off-kg (pound/million off-pounds) of copper or copper alloy pickled

PSNS FOR PICKLING RINSE FOR FORGED PARTS

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.649	0.263
Copper	2.246	1.070
Lead	0.175	0.157
Nickel	0.965	0.649
Zinc	1.790	0.737
TTO	0.596	0.596
Oil and Grease[1]	17.550	17.550

*mg/off-kg (pounds/million off-pound) of copper or copper alloy forged parts pickled

PSNS FOR PICKLING BATH

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.042	0.017
Copper	0.148	0.070
Lead	0.011	0.010
Nickel	0.063	0.042
Zinc	0.118	0.048
TTO	0.039	0.039
Oil and Grease[1]	1.160	1.160

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy pickled

PSNS FOR PICKLING FUME SCRUBBER

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.231	0.093
Copper	0.801	0.381
Lead	0.062	0.056
Nickel	0.344	0.231
Zinc	0.638	0.262
TTO	0.212	0.212
Oil and Grease[1]	6.260	6.260

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy pickled

PSNS FOR TUMBLING OR BURNISHING

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.215	0.087
Copper	0.746	0.355
Lead	0.058	0.052
Nickel	0.320	0.215
Zinc	0.594	0.244
TTO	0.198	0.198
Oil and Grease[1]	5.830	5.830

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy tumbled or burnished

PSNS FOR SURFACE COATING

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.274	0.111
Copper	0.951	0.453
Lead	0.074	0.066
Nickel	0.408	0.274
Zinc	0.757	0.312
TTO	0.252	0.252
Oil and Grease[1]	7.430	7.430

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy surface coated

PSNS FOR MISCELLANEOUS WASTE STREAMS

Pollutant or Pollutant Property	Maximum for Any One Day*	Maximum for Monthly Average*
Chromium	0.008	0.003
Copper	0.027	0.013
Lead	0.0021	0.0019
Nickel	0.011	0.008
Zinc	0.022	0.009
TTO	0.007	0.007
Oil and Grease[1]	0.218	0.218

*mg/off-kg (pounds/million off-pounds) of copper or copper alloy formed

[1]Oil and grease is an alternative monitoring parameter for total toxic organics (TTO)

40 CFR PART 469

ELECTRICAL AND ELECTRONIC COMPONENTS (PHASE I)

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries subject to the Phase I Electrical and Electronic Components categorical standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Electrical and Electronic Components standards were established by the Environmental Protection Agency in Part 469 of Title 40 of the Code of Federal Regulations (40 CFR 469). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	August 24, 1982	Vol. 47, p. 37048
Final Rule	April 8, 1983	Vol. 48, p. 15382
Amendment	September 15, 1983	Vol. 48, p. 41409
Interim Final Rule	October 4, 1983	Vol, 48, p. 45249
Final Rule	February 16, 1984	Vol. 49, p. 5922
Amendment	January 31, 1985	Vol. 50, p. 4513

APPLICABLE DATES

Effective Date: May 19, 1983
Baseline Monitoring Report (BMR) Due Date: November 15, 1983
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES) for Total Toxic Organics (TTO): July 1, 1984
- Pretreatment Standards for Existing Sources (PSES) for Arsenic: November 8, 1985
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES

The Electrical and Electronic Components (Phase I) category is divided into two subcategories, Semiconductors and Electronic Crystals.

The Semiconductor Subcategory is composed of plants manufacturing solid state electrical devices that perform functions such as information processing and display, power handling, and interconversion between light energy and electrical energy. Semiconductors include light-emitting diodes (LEDs), diodes and transistors, silicon-based integrated circuits, and liquid crystal display (LCD) devices.

The Electronic Crystal Subcategory is composed of plants manufacturing crystals or crystalline materials that are used in electronic devices. These crystals include quartz, ceramics, silicon, and gallium or indium arsenide.

SIC Codes Affected*

The Electrical and Electronic Components categorical standards affect firms in SIC Code 36. The four-digit SIC codes listed below can be used to identify firms that may be subject to the standards established under Phase I. The SIC codes are intended to be used for guidance. Not all firms with these SIC codes will be subject to the Phase I standards.

Subcategory	SIC Codes
Semiconductors	3674
Electronic Crystals	3679

REGULATED POLLUTANTS

The pollutants regulated under the Electrical and Electronic Components (Phase I) standard are total toxic organics (TTO) and arsenic. For this category, the term total toxic organics (TTO) is defined in 40 CFR 469.12(a) as the sum of concentrations for each of the following compounds found in the discharge at a concentration greater than 0.01 mg/l.

1,2,4-trichlorobenzene	2-chlorophenol
chloroform	2,4-dichlorophenol
1,2-dichlorobenzene	4-nitrophenol
1,3-dichlorobenzene	pentachlorophenol
1,4-dichlorobenzene	di-n-butyl phthalate
ethylbenzene	anthracene
1,1,1-trichloroethane	1,2-diphenylhydrazine
methylene chloride	isophorone
naphthalene	butyl benzyl phthalate
2-nitrophenol	1,1-dichloroethylene
phenol	2,4,6-trichlorophenol
bis (2 ethylhexyl) phthalate	carbon tetrachloride
tetrachloroethylene	1,2-dichloroethane
toluene	1,1,2-trichloroethane
trichloroethylene	dichlorobromomethane

Dischargers must conduct TTO monitoring for the BMR and the 90-day compliance report as outlined by EPA in the Guidance Manual for Implementing Total Toxic Organics (TTO) Pretreatment Standards. However, dischargers may be exempt from conducting routine (semiannual) monitoring for TTO if they certify that toxic organics are not used in the facility or are controlled through implementation of a toxic organics management plan. The discharger must submit to the Control Authority for approval a toxic organics management plan that specifies the toxic organic compounds used and the facility's

*Source: Summary of the Effluent Guidelines Division Rulemaking Activities, July 1983.

methods of disposal and spill-prevention measures. The discharger must also provide the Control Authority with the certification statement found in 40 CFR 469.13 at the time of submission of the toxic organics management plan and with all subsequent periodic reports on continued compliance.

Also, the pretreatment standards for total arsenic [Arsenic (T)] apply only to facilities in the electronic crystals subcategory that manufacture gallium or indium arsenide crystals.

SUBCATEGORY A - SEMICONDUCTORS

The standards for Subcategory A do not apply to discharges from sputtering, vapor deposition, and electroplating operations. These operations are regulated under the Metal Finishing categorical standards.

PRETREATMENT STANDARDS FOR EXISTING SOURCES

Pollutant or Pollutant Property	Maximum For Any One Day (mg/l)
TTO	1.37

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant or Pollutant Property	Maximum For Any One Day (mg/l)
TTO	1.37

SUBCATEGORY B - ELECTRONIC CRYSTALS

PRETREATMENT STANDARDS FOR EXISTING SOURCES

Pollutant or Pollutant Property	Maximum For Any One Day (mg/l)	Average of Daily Values For 30 Consecutive Days (mg/l)
TTO	1.37	
Arsenic (T)	2.09	0.83

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant or Pollutant Property	Maximum For Any One Day (mg/l)	Average of Daily Values For 30 Consecutive Days (mg/l)
TTO	1.37	
Arsenic (T)	2.09	0.83

40 CFR PART 469

ELECTRICAL AND ELECTRONIC COMPONENTS (PHASE II)

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms subject to the Electrical and Electronic Components (Phase II) Categorical Standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The standards were established by the Environmental Protection Agency (EPA) under Part 469 of Title 40 of the Code of Federal Regulations (40 CFR 469). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	March 9, 1983	Vol. 48, p. 10012
Final Rule	December 14, 1983	Vol. 48, p. 55690
Correction	January 9, 1984	Vol. 49, p. 1056
Amendment	September 4, 1984	Vol. 49, p. 34823

APPLICABLE DATES

Effective Date: January 27, 1984
Baseline Monitoring Report (BMR) Due Date: July 25, 1984
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): July 14, 1986
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES

The Electrical and Electronic Components (Phase II) category is divided into two subcategories, Cathode Ray Tube and Luminescent Materials. These subcategories are regulated under Subparts C and D, respectively, of 40 CFR Part 469. Standards for Subparts A and B were promulgated in the Phase I ruling of April 8, 1983.

SIC CODES AFFECTED*

The Electrical and Electronic Components categorical standards affect firms in SIC Code 36. The four-digit SIC codes listed below can be used to identify firms that may be subject to the standards established under Phase II. The SIC codes are intended to be used for guidance only. Not all firms with these SIC codes are subject to the Phase II standards.

*Source: Summary of the Effluent Guidelines Division Rulemaking Activities, July 1983.

Subcategory	SIC Codes
Cathode Ray Tube	3671[1]
Luminescent Materials	3672[1]

REGULATED POLLUTANTS

The pollutants regulated under the Electrical and Electronic Components (Phase II) standards are total toxic organics (TTO), cadmium, chromium, lead, zinc, and fluoride. For Subcategory C, the term total toxic organics (TTO) is defined in 40 CFR 469.31(b) as the sum of the concentrations of the following toxic organic compounds found in the discharge at a concentration greater than 0.01 mg/l. No TTO standard was established for Subcategory D.

chloroform	bis (2-ethylhexyl) phthalate
1,1,1-trichloroethane	toluene
methylene chloride	trichloroethylene

Dischargers must conduct TTO monitoring for the BMR and the 90-day compliance report as outlined by EPA in the Guidance Manual for Implementing Total Toxic Organics (TTO) Pretreatment Standards. However, dischargers may be exempt from conducting routine (semiannual) monitoring for TTO if they certify that toxic organics are not used in the facility or are controlled through implementation of a toxic organics management plan. The discharger must submit to the Control Authority for approval a toxic organics management plan that specifies the toxic organic compounds used and the facility's methods of disposal and spill-prevention measures. The discharger must also provide the Control Authority with the certification statement found in 40 CFR 469.13 at the time of submission of the toxic organics management plan and with all subsequent periodic reports on continued compliance.

SUBCATEGORY C - CATHODE RAY TUBE

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed (mg/l)
TTO	1.58	--
Cadmium	0.06	0.03
Chromium	0.65	0.30
Lead	1.12	0.41
Zinc	1.38	0.56
Fluoride	35.0	18.0

[1] Previously included under 3679 Electrical Components Manufacturers, n.e.c.; 3661 Electron tubes, Receiving Types; 3672 Cathode Ray Television Picture Tubes; 3673 Electron tubes, Transmitting were dropped from the list and replaced by 3671.

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed (mg/l)
TTO	1.58	--
Cadmium	0.06	0.03
Chromium	0.56	0.26
Lead	0.72	0.27
Zinc	0.80	0.33
Fluoride	35.0	18.0

SUBCATEGORY D - LUMINESCENT MATERIALS

PSES

Existing sources were excluded from regulation under the provisions of Paragraph 8(b)(ii) of the NRDC Settlement Agreement.

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed (mg/l)
Cadmium	0.55	0.26
Antimony	0.10	0.04
Zinc	1.64	0.67
Fluoride	35.0	18.0

40 CFR PART 413

ELECTROPLATING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Electroplating category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this industrial category. The Electroplating standards were established by the Environmental Protection Agency in Part 413 of Title 40 of the Code of Federal Regulations (40 CFR 413). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

The processes regulated by the Electroplating and Metal Finishing categorical pretreatment standards overlap somewhat. The Electroplating standards apply to existing job shop electroplaters[1] and existing independent printed circuit board manufacturers[2]. All other facilities that perform one of the six operations regulated by the Electroplating standards are now regulated by the more stringent Metal Finishing standards. The Metal Finishing standards also regulate wastewaters discharged from an additional 40 processes performed at industrial facilities in conjunction with one of the six regulated Electroplating processes. All new indirect dischargers that perform one of the six processes regulated by Electroplating standards must comply with the Metal Finishing standards for new sources (PSNS). There are no Electroplating standards for new sources; the standards are only applicable to existing sources.

For all categories, a new source is defined as a facility that has begun construction of the regulated process after publication of the proposed rule for that particular category. Because of the overlap of the Electroplating and Metal Finishing Regulations, the same date (the date of publication of the proposed Metal Finishing standards) is used to determine existing and new sources. The publication date for the proposed Metal Finishing Regulation is August 31, 1982. Any facility that performs one of the six processes regulated under the Electroplating standards that began construction after August 31, 1982 is regulated by the PSNS Metal Finishing standards. These facilities must be in compliance with the standards on the first day of discharge.

Only existing sources that are classified as Job Shop Electroplaters[1] or Independent Printed Circuit Board Manufacturers[2] are regulated by the Electroplating standards and have compliance dates as listed below. All other existing facilities were first regulated by the Electroplating standards with compliance dates listed below and are now regulated by the PSES Metal

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[1]A job shop as defined in 40 CFR 433.11(c) is a facility which owns not more than 50 percent (annual area basis) of the materials undergoing metal finishing.

[2]An independent printed circuit board manufacturer as defined in 40 CFR 433.11(d) is a facility which manufactures printed circuit boards principally for sale to other companies.

Finishing standards, for which the compliance date was February 15, 1986. Refer to the Metal Finishing Regulations or the corresponding summary of these categorical standards for more information regarding the application of Metal Finishing Categorical Pretreatment Standards. These sources include a discussion of the processes exempt from regulation and those that are regulated under a different categorical pretreatment standard.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	February 14, 1978	Vol. 43, p. 6560
Final Rule	September 7, 1979	Vol. 44, p. 52590
Final Rule, Correction	October 1, 1979	Vol. 44
Amendment	March 25, 1980	Vol. 45, p. 19245
Proposed Amendments	July 3, 1980	Vol. 45, p. 45322
Final Rule, Correction	August 19, 1980	Vol. 45
Final Rule, Amendment	January 28, 1981	Vol. 46, p. 9462
Amendment	February 12, 1981	Vol. 46, p. 11972
Corrections	June 10, 1981	Vol. 46, p. 30625
	September 2, 1981	Vol. 46, p. 43972
Amendments	January 21, 1983	Vol. 48, p. 2774
	July 15, 1983	Vol. 48, p. 32462
	September 15, 1983	Vol. 48, p. 41409
Corrections	September 26, 1983	Vol. 48, p. 43680
	October 3, 1983	Vol. 48, p. 45105
Amendment	September 4, 1984	Vol. 49, p. 34823
Final Rule, Technical Amendment	November 7, 1986	Vol. 51, p. 40420

APPLICABLE DATES

Effective Date	March 30, 1981
Baseline Monitoring Report (BMR) Due Dates:	
Non-integrated Facilities[3]	September 26, 1981
Integrated Facilities[4]	June 25, 1983
Total Toxic Organic (TTO) Facilities	February 25, 1984

[3] A non-integrated facility is generally defined as a facility which has significant wastewater discharges only from operations addressed by the electroplating category.

[4] An integrated facility is defined in 40 CFR 413.02(h) as a facility that 1) performs electroplating operations (including electroplating, electroless plating chemical etching and milling, anodizing, coating, and printed circuit board manufacturing) as only one of several operations in the manufacture of a product at a single location; 2) has significant quantities of process wastewater from non-electroplating manufacturing processes; and 3) has one or more electroplating process wastewater lines that are combined with process wastewater from non-electroplating manufacturing operations prior to treatment.

Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES) for Metals and Cyanide of Non-Integrated Facilities[3]: April 27, 1984

- Pretreatment Standards for Existing Sources (PSES) for Metals and Cyanide of Integrated Facilities[4]: June 30, 1984

- Pretreatment Standards for Existing Sources (PSES) for Total Toxic Organics: July 15, 1986

- Pretreatment Standards for New Sources (PSNS): From commencement of discharge.

REGULATED POLLUTANTS

The Electroplating standards set discharge limits on copper, nickel, chromium, zinc, lead, cadmium, silver, total metals, cyanide, and total toxic organics (TTO). For this category, TTO is defined in 40 CFR 413.02(i) as the sum of all quantifiable concentrations greater than 0.01 mg/l for the following substances:

acenaphthene
acrolein
acrylonitrile
benzene
benzidine
carbon tetrachloride (tetrachloromethane)
chlorobenzene
1,2,4-trichlorobenzene
hexachlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
hexachloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
chloroethane
bis (2-chloroethyl) ether
2-chloroethyl vinyl ether (mixed)
2-chloronaphthalene
2,4,6-trichlorophenol
parachlorometa cresol
chloroform (trichloromethane)
2-chlorophenol
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3-dichlorobenzidine
1,1-dichloroethylene
1,2-trans-dichloroethylene
2,4-dichlorophenol
1,2-dichloropropane
1,3-dichloropropylene (1,3-dichloropropene)
2,4-dimethylphenol
methyl chloride (chloromethane)
methyl bromide (bromomethane)
bromoform (tribromomethane)
dichlorobromomethane
chlorodibromomethane
hexachlorobutadiene
hexachlorocyclopentadiene
isophorone
naphthalene
nitrobenzene
nitrophenol
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine
pentachlorophenol
phenol
bis (2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
di-n-octyl phthalate
diethyl phthalate

dimethyl phthalate
benzo (a) anthracene
(1,2-benzanthracene)
benzo (a) pyrene (3,4-benzopyrene)
3,4-benzofluoranthene
benzo (k) fluoranthene
(11, 12-benzofluoranthene)
chrysene
acenaphthylene
anthracene
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
ethylbenzene
fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
bis (2-chlorisopropyl) ether
bis (2-chloroethoxy) methane
methylene chloride
(dichloromethane)
trichloroethylene
vinyl chloride (chloroethylene)
aldrin
dieldrin
chlordane (technical mixture &
metabolites)
4, 4'-DDT
4, 4'-DDE (p, p'-DDX)
4, 4'-DDD (p, p'-TDE)
Alpha-endosulfan
Beta-endosulfan
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
benzo (ghi) perylene
(1, 12-benzoperylene)
fluorene
phenanthrene
dibenzo (a,h) anthracene
(1,2,5,6-dibenzanthracene)
indeno (1,2,3-cd) pyrene
(2,3-o-phenylenepyrene)
pyrene
tetrachloroethylene
toluene
heptachlor epoxide
Alpha-BHC
Beta-BHC
Gamma-BHC (lindane)
Delta-BHC
PCB-1242 (Arochlor 1242)
PCB-1254 (Arochlor 1254)
PCB-1221 (Arochlor 1221)
PCB-1232 (Arochlor 1232)
PCB-1248 (Arochlor 1248)
PCB-1260 (Arochlor 1260)
PCB-1016 (Arochlor 1016)
toxaphene
2,3,7,8-tetrachlorodibenzo-p-dioxin
(TCDD)

Dischargers must conduct TTO monitoring for the BMR and the 90-day compliance report as outlined by EPA in the Guidance Manual for Implementing Total Toxic Organics (TTO) Pretreatment Standards. However, dischargers may be exempt from conducting routine (semiannual) monitoring for TTO if they certify that toxic organics are not used in the facility or are controlled through implementation of a toxic organics management plan. The discharger must submit to the Control Authority for approval a toxic organics management plan that specifies the toxic organic compounds used and the facility's methods of disposal and spill-prevention measures. The discharger must also provide the Control Authority with the certification statement found in 40 CFR 413.03(a) at the time of submission of the toxic organics management plan and with all subsequent periodic reports on continued compliance.

If monitoring for TTO is necessary to determine compliance with TTO standards, the industrial discharge may be allowed to be analyzed only for those pollutants that would reasonably be expected to be present in the discharge.

Total Metals is defined as the sum of the concentration or mass of copper, nickel, chromium (total), and zinc.

SUBCATEGORIES

Eight subcategories have been established for the Electroplating industry:

A. Electroplating of Common Metals
B. Electroplating of Precious Metals
C. Electroplating of Specialty Metals
D. Anodizing
E. Coatings
F. Chemical Etching and Milling
G. Electroless Plating
H. Printed Circuit Boards

Subcategory B is regulated separately, and Subcategory C has been reserved from regulation. The concentration-based standards shown below are the same for Subcategories A, D, E, F, G, and H. The mass-based standards for Subcategories A, D, E, F, and G are the same. The mass-based standards for Subcategory H, Printed Circuit Boards, are shown separately. Note that the standards vary according to volume of discharge, and that alternative mass-based standards are provided for larger operations.

(A) CONCENTRATION-BASED PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) FOR FACILITIES IN SUBCATEGORIES A, D, E, F, G, AND H THAT DISCHARGE LESS THAN 38,000 LITERS (10,000 GALLONS) PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Amenable Cyanide	5.0	2.7
Lead	0.6	0.4
Cadmium	1.2	0.7
TTO	4.57	--

(B) CONCENTRATION-BASED PSES FOR FACILITIES IN SUBCATEGORIES A, B, E, F, G, AND H THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Total Cyanide	1.9	1.0
Copper	4.5	2.7
Nickel	4.1	2.6
Chromium	7.0	4.0
Zinc	4.2	2.6
Lead	0.6	0.4
Cadmium	1.2	0.7
Total Metals	10.5	6.8
TTO	2.13	--

(C) MASS-BASED PSES FOR FACILITIES IN SUBCATEGORIES A, D, E, F, AND G THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/sq-m operation)*	Average of Daily Values for Four Consecutive Monitoring Days (mg/sq-m operation)
Total Cyanide	74	39
Copper	176	105
Nickel	160	100
Chromium	273	156
Zinc	164	102
Lead	23	16
Cadmium	47	29
Total Metals	410	267
TTO	2.13 mg/l	

(D) MASS-BASED PSES FOR FACILITIES IN SUBCATEGORY H THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/sq-m operation)*	Average of Daily Values for Four Consecutive Monitoring Days (mg/sq-m operation)
Total Cyanide	169	89
Copper	401	241
Nickel	365	229
Chromium	623	357
Zinc	374	232
Lead	53	36
Cadmium	107	65
Total Metals	935	609

*Sq-m operation is the area of material plated expressed in square meters.

The mass-based standards are equivalent to and may be applied in place of the concentration-based limits specified in part (B) of this section upon prior agreement between an industry that is subject to these standards and the POTW that receives the regulated wastes.

For wastewater sources regulated under part (B) of this section, firms may choose the following optional control program with the concurrence of the Control Authority. These optional pollutant parameters are not eligible for an allowance for a removal achieved by the POTW under 40 CFR 403.7. In the absence of strong chelating agents, after the reduction of hexavalent chromium wastes and neutralization with calcium oxide or hydroxide, the following limits apply.

(E) OPTIONAL CONTROL CONCENTRATION-BASED PSES FOR FACILITIES IN SUBCATEGORIES A, D, E, F, G, AND H THAT DISCHARGE MORE THAN 38,000 LITERS PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Total Cyanide	1.9	1.0
Lead	0.6	0.4
Cadmium	1.2	0.7
TSS	20.0	13.4
pH	7.5 to 10.0	7.5 to 10.0
TTO	2.13	--

The following standards apply to Subcategory B, Electroplating of Precious Metals.

(A) CONCENTRATION-BASED PSES FOR FACILITIES IN SUBCATEGORY B THAT DISCHARGE LESS THAN 38,000 LITERS PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Amenable Cyanide	5.0	2.7
Lead	0.6	0.4
Cadmium	1.2	0.7
TTO	4.57	--

(B) CONCENTRATION-BASED PSES FOR FACILITIES IN SUBCATEGORY B THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Silver	1.2	0.7
Total Cyanide	1.9	1.0
Copper	4.5	2.7
Nickel	4.1	2.6
Chromium	7.0	4.0
Zinc	4.2	2.6
Lead	0.6	0.4
Cadmium	1.2	0.7
Total Metals	10.5	6.8
TTO	2.13	--

(C) MASS-BASED PSES FOR FACILITIES IN SUBCATEGORY B THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/sq m-operation)	Average of Daily Values for Four Consecutive Monitoring Days (mg/sq m-operation)
Silver	47	29
Total Cyanide	74	39
Copper	176	105
Nickel	160	100
Chromium	273	156
Zinc	164	102
Lead	23	16
Cadmium	47	29
Total Metals	410	267
TTO	2.13 mg/l	--

The above mass-based standards are equivalent to and may be applied in place of the limits specified in part (B) of this section upon prior agreement between an industry and the POTW that receives the regulated waste.

For wastewater sources regulated under part (B) of this section, firms may choose the following optional control program with the concurrence of the control authority.

(D) OPTIONAL CONTROL CONCENTRATION-BASED PSES FOR FACILITIES IN SUBCATEGORY B THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Total Cyanide	1.9	1.0
Lead	0.6	0.4
Cadmium	1.2	0.7
TSS	20.0	13.4
pH	7.5 to 10.0	7.5 to 10.0
TTO	2.13	--

Integrated facilities are defined as facilities that meet the following criteria:

(a) Electroplating is performed as one of several of the facility's manufacturing operations at a single location.

(b) The facility has significant quantities of process wastewater from non-electroplating operations.

(c) One or more electroplating process wastewater lines must be combined prior to or at the point of treatment with one or more lines that carry non-electroplating wastewater.

The categorical standards of the regulated wastestreams to be adjusted using the CWF must be consistent in terms of the number of samples on which the standards are based. Electroplating wastestreams are regulated by a 4-day average standard and are not consistent with other categorical standards that apply a maximum monthly average (based on 10 sample days). According to 40 CFR Part 413.04, if a non-electroplating wastestream is regulated by a monthly average standard and is combined with an electroplating wastestream, monthly standards rather than 4-day average standards are to be used in calculating an alternative limit with the CWF. Also, if two electroplating wastestreams regulated under different subcategories of the electroplating regulations are combined, the 4-day limits may be used to calculate the alternate limits, unless an additional wastestream subject to monthly standards is added. The following equivalent monthly averages (based on 10 sample days per month) have been developed for use in the CWF:

Pollutant	Equivalent Monthly Average (mg/l)
Cadmium (T)	0.63
Chromium (T)	3.56
Copper (T)	2.44
Lead (T)	0.37
Nickel (T)	2.38
Zinc (T)	2.37
Silver (T)	0.63
Total Metals	6.26
Cyanide, A	2.37
Cyanide (T)	0.87

40 CFR PART 415

INORGANIC CHEMICALS MANUFACTURING (PHASE I AND II)

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries subject to the Inorganic Chemicals Manufacturing (Phase I and II) Categorical Standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Phase I and II Inorganic Chemicals Manufacturing standards were established by the Environmental Protection Agency under Part 415 of Title 40 of the Code of Federal Regulations (40 CFR 415). This summary is not intended to substitute the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register
Interim Final Rulemaking	July 20, 1977	Vol. 42, p. 37294
Proposed Rule (Phase I)	July 24, 1980	Vol. 45, p. 49450
Final Rule (Phase I)	June 29, 1982	Vol. 47, p. 28260
Correction	December 8, 1982	Vol. 47, p. 55226
Amendment	January 21, 1983	Vol. 48, p. 2774
Proposed Rule (Phase II)	October 25, 1983	Vol. 48, p. 49408
Final Rule (Phase II)	August 22, 1984	Vol. 49, p. 33402
Correction	September 25, 1984	Vol. 49, p. 37594

APPLICABLE DATES:

Effective Dates:

(Interim Rule)	July 20, 1977
(Phase I)	August 12, 1982
(Phase II)	October 5, 1984
Baseline Monitoring Report (BMR) Due Dates: (Phase I)	May 9, 1983
(Phase II)	April 3, 1985

Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES) for Subparts A, B, L, AL, AR, BA, and BC: July 20, 1980
- Pretreatment Standards for Existing Sources (PSES) for Subparts AJ, AU, BL, BM, BN, and BO (except discharges from Copper Sulfate or Nickel Sulfate processes): August 22, 1987
- Pretreatment Standards for Existing Sources (PSES) for Copper Sulfate or Nickel Sulfate processes and all Subparts of Part 415 not listed above: June 29, 1985
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge.

SUBCATEGORIES AND SIC CODES

The Inorganic Chemicals (Phase I) category is broken down into 63 subcategories that correspond to the inorganic compounds being produced. Each subcategory is regulated as shown below.[1]

Subpart	Subcategory	PSES	PSNS
A	Aluminum Chloride	P	N
B	Aluminum Sulfate	P	P
C	Calcium Carbide	E	P
D	Calcium Chloride	E	P
E	Calcium Oxide	E	P
F	Chlor-alkali		
	- Mercury Cell	E	P
	- Diaphragm Cell	P	P
G	Hydrochloric Acid	E	E
H	Hydrofluoric Acid	E	P
I	Hydrogen Peroxide	E	E
J	Nitric Acid	E	E
K	Potassium Metal	E	P
L	Potassium Dichromate	P	P
M	Potassium Sulfate	E	P
N	Sodium Bicarbonate	E	P
O	Sodium Carbonate	E	E
P	Sodium Chloride	E	P
Q	Sodium Dichromate and Sodium Sulfate	E	P
R	Sodium Metal	E	E
S	Sodium Silicate	E	E
T	Sodium Sulfite	E	P*
U	Sulfuric Acid	E	E
V	Titanium Dioxide		
	- Sulfate	E	P
	- Chloride	E	P
	- Chlorine Ilmenite	E	P
W	Aluminum Fluoride	R	R
X	Ammonium Chloride	E	E
Y	Ammonium Hydroxide	E	E
Z	Barium Carbonate	E	E
AA	Borax	E	P*
AB	Boric Acid	E	E
AC	Bromine	E	P*
AD	Calcium Carbonate	E	E
AE	Calcium Hydroxide	E	P*
AF	Carbon Dioxide	E	E
AG	Carbon Monoxide and Byproduct Hydrogen	E	E

[1]Source: Summary of the Effluent Guidelines Division Rulemaking Activities, Environmental Protection Agency, September 1984.

INORGANIC CHEMICALS MANUFACTURING (PHASE I AND II) (cont.)

AH	Chrome Pigments	P	P
AI	Chromic Acid	E	P*
AJ	Copper Sulfate	A*	A*
AK	Cuprous Oxide	E	E
AL	Ferric Chloride	P	P*
AM	Ferrous Sulfate	E	E
AN	Fluorine	E	P*
AO	Hydrogen	E	E
AP	Hydrogen Cyanide	E	P
AQ	Iodine	E	P*
AR	Lead Monoxide	P	P*
AS	Lithium Carbonate	E	E
AT	Manganese Sulfate	E	E
AU	Nickel Sulfate	A*	A*
AV	Strong Nitric Acid	E	E
AW	Oxygen and Nitrogen	E	E
AX	Potassium Chloride	E	P*
AY	Potassium Iodide	E	E
AZ	Potassium Permanganate	E	E
BA	Silver Nitrate	P	N
BB	Sodium Bisulfite	E	P
BC	Sodium Fluoride	P	P*
BD	Sodium Hydrosulfide	E	E
BE	Sodium Hydrosulfite	E	E
BF	Sodium Silicofluoride	E	E
BG	Sodium Thiosulfate	E	E
BH	Stannic Oxide	E	P*
BI	Sulfur Dioxide	E	E
BJ	Zinc Oxide	E	E
BK	Zinc Sulfate	E	P*
BL	Cadmium Pigments and Salts		
	- Cadmium Pigments	P	P
	- Cadmium Salts	P	P
BM	Cobalt Salts	P	P
BN	Sodium Chlorate	R	P
BO	Zinc Chloride	P	P

Key: P = Promulgated in Phase I Ruling
P* = Promulgated in Phase II Ruling
A* = Promulgated Standards Amended in Phase II Ruling
R = Reserved or Deferred
N = Not addressed
E = Excluded under provisions of the NRDC Settlement Agreement (Paragraph 8)

The inorganic chemicals manufacturing industry is classified under Standard Industrial Classification (SIC) Code 281, Industrial Inorganic Chemicals. The final regulation for this industry applies to parts of SIC subgroups 2812, Alkalies and Chlorine; 2813, Industrial Gases; 2816, Inorganic Pigments; and 2819, Industrial Inorganic Chemicals, Not Elsewhere Classified.

The Phase II Inorganic Chemicals Manufacturing Standards were originally to have covered 117 subcategories. However, after reviewing the inorganic chemical products listed under Standard Industrial Classification (SIC) codes 2812, 2813, 2816, and 2819, EPA identified seven additional subcategories, bringing the total number of Phase II subcategories to 124. Of these 124 subcategories, 106 were excluded from further study for one or more of the following reasons:

1) The chemical is no longer produced.

2) Only one plant was known to be producing the chemical.

3) The amount and toxicity of pollutants did not justify national regulation.

4) No dischargers could be identified.

5) No toxic pollutants were found at significant treatable levels.

6) The subcategory was already regulated by existing guidelines.

From the remaining 18 subcategories, EPA consolidated 17 of them into the following six subcategories (the remaining subcategory was deferred from regulation):

1) Cadmium Compounds - includes cadmium pigments, cadmium chloride, cadmium nitrate, and cadmium sulfate

2) Cobalt Salts - includes cobalt chloride, cobalt nitrate, and cobalt sulfate

3) Copper Salts - includes copper carbonate, copper chloride, copper iodide, copper nitrate, and copper sulfate

4) Nickel Salts - includes nickel carbonate, nickel chloride, nickel fluoborate, nickel nitrate, and nickel sulfate

5) Sodium Chlorate

6) Zinc Chloride.

PSNS have been promulgated for all six consolidated subcategories. PSES were promulgated for five subcategories; the Sodium Chlorate subcategory was excluded because there are no existing indirect dischargers in that subcategory.

REGULATED POLLUTANTS

The pollutants regulated by the Phase I Inorganic Chemicals Manufacturing categorical standards are chromium, copper, fluoride, iron, lead, mercury, nickel, selenium, silver, zinc, and cyanide.

The pollutants regulated by the Phase II Inorganic Chemicals Manufacturing categorical standards are antimony, arsenic, cadmium, chromium, cobalt, copper, lead, nickel, selenium, and zinc.

SUBCATEGORY A - ALUMINUM CHLORIDE PRODUCTION

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant or Pollutant Property	Limit
pH	5.0 to 10.0

SUBCATEGORY B - ALUMINUM SULFATE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Zinc	5.0	2.5

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Any new source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with the following pretreatment standards.

(a) There shall be no discharge of process wastewater pollutants into navigable waters.

(b) A process wastewater impoundment that is designed, constructed, and operated to contain the precipitation from the 25-year, 24-hour rainfall event as established by the National Climatic Center of the National Oceanic and Atmospheric Administration for the area in

which such impoundment is located may discharge that volume of process wastewater equivalent to the volume of precipitation that falls within the impoundment in excess of that attributed to the 25-year, 24-hour rainfall event, when such an event occurs.

SUBCATEGORY C - CALCIUM CARBIDE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY D - CALCIUM CHLORIDE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY E - CALCIUM OXIDE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

Any new source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with the following pretreatment standards.

(a) There shall be no discharge of process wastewater pollutants into navigable waters.

(b) A process wastewater impoundment that is designed, constructed, and operated to contain the precipitation from the 25-year, 24-hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration for the area in which such impoundment is located may discharge that volume of

process wastewater equivalent to the volume of precipitation that falls within the impoundment in excess of that attributed to the 25-year, 24-hour rainfall event, when such an event occurs.

SUBCATEGORY F - CHLOR-ALKALI (CHLORINE AND SODIUM OR POTASSIUM HYDROXIDE PRODUCTION)

1) MERCURY CELL PROCESS

PSES

Excluded under NRDC Consent Decree

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Mercury	0.11	0.048

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Mercury (T)	0.00023	0.00010

2) DIAPHRAGM CELL PROCESS

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Copper (T)	2.1	0.80
Lead (T)	2.9	1.10
Nickel (T)	1.6	0.64

PSES MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Copper (T)	0.018	0.0070
Lead (T)	0.026	0.0100
Nickel (T)	0.014	0.0056

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Lead (T)	0.53	0.21

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Lead (T)	0.0047	0.0019

SUBCATEGORY H - HYDROFLUORIC ACID PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Fluoride (T)	100	50
Nickel (T)	0.66	0.20
Zinc (T)	2.2	0.66

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Fluoride (T)	3.4	1.6
Nickel (T)	0.020	0.0060
Zinc (T)	0.072	0.022

SUBCATEGORY K - POTASSIUM METAL PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY L - POTASSIUM DICHROMATE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Hexavalent Chromium	0.25	0.090
Chromium (T)	3.0	1.00

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY M - POTASSIUM SULFATE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

Any new source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with the following pretreatment standards.

(a) There shall be no discharge of process wastewater pollutants into navigable waters.

(b) A process wastewater impoundment that is designed, constructed, and operated to contain the precipitation from the 25-year, 24-hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration for the area in which such impoundment is located may discharge that volume of process wastewater equivalent to the volume of precipitation that falls within the impoundment in excess of that attributed to the 25-year, 24-hour rainfall event, when such an event occurs.

SUBCATEGORY N - SODIUM BICARBONATE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PNSN

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY P - SODIUM CHLORIDE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

(a) Any new source subject to this subpart that uses the solar evaporation process must achieve the following new source pretreatment standards: There shall be no discharge of process wastewater pollutants to navigable waters, except that unused bitterns may be returned to the body of water from which the process brine solution was originally withdrawn, provided no additional pollutants are added to the bitterns during the production of sodium chloride.

(b) Any new source subject to this subpart and using the solution brine-mining process must achieve the following standard: There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY Q - SODIUM DICHROMATE AND SODIUM SULFATE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Chromium (T)	1.0	0.50
Hexavalent Chromium	0.11	0.060
Nickel (T)	0.80	0.40

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Chromium (T)	0.0088	0.0044
Hexavalent Chromium	0.00090	0.00050
Nickel (T)	0.0068	0.0034

SUBCATEGORY T - SODIUM SULFATE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive days (mg/l)
Chromium (T)	1.3	0.42
Zinc (T)	3.4	1.2

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Chromium (T)	0.0020	0.00063
Zinc (T)	0.0051	0.0015

SUBCATEGORY V - TITANIUM DIOXIDE PRODUCTION

1) SULFATE PROCESS

PSES

Excluded under NRDC Consent Decree

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Iron (T)	8.50	2.50
Chromium (T)	0.57	0.30
Nickel (T)	0.38	0.20

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Iron (T)	4.10	1.200
Chromium (T)	0.27	0.140
Nickel (T)	0.18	0.095

2) CHLORIDE PROCESS

PSES

Excluded under NRDC Consent Decree

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Iron (T)	5.30	1.60
Chromium (T)	0.23	0.12

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Iron (T)	0.520	0.16
Chromium (T)	0.023	0.012

3) CHLORIDE-ILMENITE PROCESS

PSES

Excluded under NRDC Consent Decree

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Iron (T)	5.30	1.60
Chromium (T)	0.23	0.12
Nickel (T)	0.36	0.17

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Iron (T)	0.32	0.096
Chromium (T)	0.014	0.0072
Nickel (T)	0.020	0.010

SUBCATEGORY AA - BORAX PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge to navigable waters, except that residual brine and depleted liquor may be returned to the body of water from which the process brine solution was originally drawn.

SUBCATEGORY AC - BROMINE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters, except that residual brine and depleted liquor may be returned to the body of water from which the process brine solution was originally withdrawn.

SUBCATEGORY AE - CALCIUM HYDROXIDE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY AH - CHROME PIGMENTS PRODUCTION

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Chromium (T)	2.9	1.2
Lead (T)	3.4	1.4
Zinc (T)	2.9	1.2

(a) Existing sources that annually introduce less than 210,000 cubic meters per year (55 million gallons per year) of chrome pigment process wastewater into a publicly owned treatment works are subject only to the general pretreatment standards specified in 40 CFR Part 403.

(b) Except as provided in 40 CFR 403.7 and 403.13 and paragraph (a) of this section, any existing source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the pretreatment standards for existing sources (PSES) for Subcategory AH.

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Chromium (T)	0.31	0.13
Lead (T)	0.36	0.15
Zinc (T)	0.31	0.13

SUBCATEGORY AI - CHROMIC ACID PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters except as provided for below:

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Hexavalent Chromium	0.00090	0.00050
Chromium (T)	0.0088	0.0044
Nickel (T)	0.0068	0.0034

SUBCATEGORY AJ - COPPER SALTS PRODUCTION

a) Copper sulfate, copper chloride, copper iodide, or copper nitrate

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Copper (T)	3.2	1.1
Nickel (T)	6.4	2.1
Selenium (T)	1.6	0.53

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Copper (T)	0.0030	0.0010
Nickel (T)	0.0060	0.0020
Selenium (T)	0.0015	0.00050

b) Copper carbonate

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Copper (T)	3.2	1.1
Nickel (T)	6.4	2.1
Selenium (T)	1.6	0.53

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Copper (T)	0.19	0.064
Nickel (T)	0.37	0.12
Selenium (T)	0.093	0.031

SUBCATEGORY AL - FERRIC CHLORIDE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Total Chromium	3.0	1.0
Hexavalent Chromium	0.25	0.09
Copper (T)	1.0	0.50
Nickel (T)	2.0	1.0
Zinc (T)	5.0	2.5

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY AN - FLUORINE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY AP - HYDROGEN CYANIDE PRODUCTION

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Amenable Cyanide	1.7	0.36
Total Cyanide	11.0	4.0

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Amenable Cyanide	0.10	0.021
Total Cyanide	0.65	0.23

The term amenable cyanide means those cyanides that can be treated by chlorination. It is determined by the methods specified in 40 CFR {136.3.

SUBCATEGORY AQ - IODINE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY AR - LEAD MONOXIDE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Lead	2.0	1.0

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY AU - NICKEL SALTS PRODUCTION

a) Nickel sulfate, nickel chloride, nickel nitrate, or nickel fluoborate

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Copper (T)	1.1	0.36
Nickel (T)	1.1	0.36

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Copper (T)	0.00074	0.00024
Nickel (T)	0.00074	0.00024

b) Nickel carbonate

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Copper (T)	1.1	0.36
Nickel (T)	1.1	0.36

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Copper (T)	0.13	0.042
Nickel (T)	0.13	0.042

SUBCATEGORY AX - POTASSIUM CHLORIDE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters, except that residual brine and depleted liquor may be returned to the body of water from which the process brine solution was originally drawn.

SUBCATEGORY BA - SILVER NITRATE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Silver	1.0	0.5

SUBCATEGORY BB - SODIUM BISULFITE PRODUCTION

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Chromium (T)	1.3	0.42

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Chromium (T)	0.0020	0.00068

SUBCATEGORY BC - SODIUM FLUORIDE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Fluoride	50	25

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY BH - STANNIC OXIDE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY BK - ZINC SULFATE PRODUCTION

PSES

Excluded under NRDC Consent Decree

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY BL - CADMIUM PIGMENTS AND SALTS PRODUCTION

a) Cadmium pigments

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Cadmium (T)	0.84	0.28
Selenium (T)	1.1	0.40
Zinc (T)	0.18	0.10

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Cadmium (T)	0.078	0.026
Selenium (T)	0.11	0.037
Zinc (T)	0.017	0.0092

b) Cadmium salts

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Cadmium (T)	0.84	0.28
Selenium (T)	1.1	0.40
Zinc (T)	0.18	0.10

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Cadmium (T)	4.87×10^{-5}	1.62×10^{-5}
Selenium (T)	7.0×10^{-5}	2.3×10^{-5}
Zinc (T)	1.04×10^{-5}	5.8×10^{-6}

SUBCATEGORY BM - COBALT SALTS PRODUCTION

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Cobalt (T)	3.6	1.4
Copper (T)	3.3	1.0
Nickel (T)	3.3	1.0

PSES MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Cobalt (T)	0.0003	0.00012
Copper (T)	2.7×10^{-4}	8.3×10^{-5}
Nickel (T)	2.7×10^{-4}	8.3×10^{-5}

SUBCATEGORY BN - SODIUM CHLORATE PRODUCTION

PSES

Reserved

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Antimony (T)	1.6	0.8
Chromium (T)	0.64	0.32

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Antimony (T)	0.0043	0.0022
Chromium (T)	0.0017	0.00086

SUBCATEGORY BO - ZINC CHLORIDE PRODUCTION

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Arsenic (T)	3.0	1.0
Zinc (T)	2.3	0.76
Lead (T)	0.18	0.048

40 CFR PART 420

IRON AND STEEL

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Iron and Steel category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this industrial category. The Iron and Steel categorical standards were established by the Environmental Protection Agency in Part 420 of Title 40 of the Code of Federal Regulations (40 CFR 420). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	January 7, 1981	Vol. 46, p. 1858
Final Rule	May 27, 1982	Vol. 47, p. 23258
Corrections	June 7, 1982	Vol. 47, p. 24554
	September 22, 1982	Vol. 47, p. 41738
Amendments	January 21, 1983	Vol. 48, p. 2774
	October 14, 1983	Vol. 48, p. 46942
	May 17, 1984	Vol. 49, p. 21024
Correction	June 15, 1984	Vol. 49, p. 24726

APPLICABLE DATES

Effective Date: July 10, 1982
Baseline Monitoring Report (BMR) Due Date: April 6, 1983
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): July 10, 1985
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge.

SUBCATEGORIES, SIC CODES, AND REGULATED POLLUTANTS

The Iron and Steel industry has been divided into twelve subcategories. The subcategories are listed below, along with the SIC codes for the industries and the pollutants regulated under each subcategory.

Subcategory	SIC Codes*	Regulated Pollutants
A. Cokemaking	3312	Ammonia, Cyanide, Phenols (4AAP)
B. Sintering	3312	Ammonia, Cyanide, Phenols (4AAP), Lead, Zinc

*Industries in SIC group 3312 that are engaged in coil coating, other than hot dipcoating, are not regulated under the Iron and Steel categorical standards.

IRON AND STEEL (cont.)

C. Ironmaking	3312	Ammonia, Cyanide, Phenols (4AAP), Lead, Zinc
D. Steelmaking	3312	Lead, Zinc
E. Vacuum Degassing	3312	Lead, Zinc
F. Continuous Casting	3312	Lead, Zinc
G. Hot Forming	3312, 3315, 3317	No numerical limits
H. Salt Bath Descaling	3312, 3315, 3317	Chromium, Nickel, Cyanide
I. Acid Pickling	3312, 3315, 3317	Chromium, Nickel, Lead, Zinc
J. Cold Forming	3316	Chromium, Lead, Nickel, Zinc, Naphthalene, Tetrachloroethylene
K. Alkaline Cleaning	3312, 3315, 3316, 3317	No numerical limits
L. Hot Coating	3312, 3315, 3317	Hexavalent Chromium, Lead, Zinc

IRON AND STEEL (cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
A. Cokemaking 1. Iron and Steel[1]	Ave.	0.0322		0.0215				0.00859				
	Max.	0.0645		0.043				0.0172				
2. Merchant[2]	Ave.	0.0375		0.025				0.0100				
	Max.	0.0751		0.0501				0.0200				
3. Beehive*												
B. Sintering[3]	Ave.	0.00501		0.0000501				0.00150	0.000150		0.000225	
	Max.	0.0150		0.000100				0.00300	0.000451		0.000676	
C. Ironmaking 1. Iron	Ave.	0.00292		0.0000292				0.000876	0.0000876		0.000131	
	Max.	0.00876		0.0000584				0.00175	0.000263		0.000394	
2. Ferro-manganese*												
3. Existing Indirect Dischargers	Ave.	0.0175		0.0000584				0.000876	0.0000876		0.000131	
	Max.	0.0350		0.000175				0.00175	0.000263		0.000394	
D. Steelmaking 1. Basic Oxygen Furnace (BOF): Semi-wet*												
2. BOF: Wet-open	Ave.								0.000138		0.000207	
	Max.								0.000413		0.000620	
3. BOF: Wet-suppressed	Ave.								0.0000626		0.0000939	
	Max.								0.000188		0.000282	
4. Open Hearth Furnace: Wet*												

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
5. Electric Arc Furnace (EAF): Semi-wet*												
6. EAF: Wet	Ave.								0.000138		0.000207	
	Max.								0.000413		0.000620	
E. Vacuum Degassing	Ave.								0.0000313		0.0000469	
	Max.								0.0000939		0.000141	
F. Continuous Casting	Ave.								0.0000313		0.0000469	
	Max.								0.0000939		0.000141	
G. Hot Forming**												
H. Salt Bath Descaling												
a. Oxidizing - 1. Batch, Sheet and Plate	Ave.						0.00117			0.000876		
	Max.						0.00292			0.00263		
2. Batch, Rod and Wire	Ave.						0.000701			0.000526		
	Max.						0.00175			0.00158		
3. Batch, Pipe and Tube	Ave.						0.00284			0.00213		
	Max.						0.00709			0.00638		
4. Continuous	Ave.						0.000551			0.000413		
	Max.						0.00138			0.00124		
b. Reducing - 1. Batch	Ave.						0.000542	0.000339		0.000407		
	Max.						0.00136	0.00102		0.00122		
2. Continuous	Ave.						0.00304	0.00190		0.00228		
	Max.						0.00759	0.00569		0.00683		

IRON AND STEEL (cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
1. Acid Pickling a. Sulfuric Acid Pickling - 1. Rod, Wire, and Coil	Ave.								0.000175		0.000234	
	Max.								0.000526		0.000701	
2. Bar, Billet, and Bloom	Ave.								0.0000563		0.0000751	
	Max.								0.000169		0.000225	
3. Strip, Sheet, and Plate	Ave.								0.000113		0.000150	
	Max.								0.000338		0.000451	
4. Pipe, Tube, and Other	Ave.								0.000313		0.000417	
	Max.								0.000939		0.00125	
5. Fume Scrubber[4] (kg/day)	Ave.								0.0123		0.0164	
	Max.								0.0368		0.0491	
b. Hydrochloric Acid Pickling - 1. Rod, Wire, and Coil	Ave.								0.000307		0.000409	
	Max.								0.000920		0.00123	
2. Strip, Sheet, and Plate	Ave.								0.000175		0.000234	
	Max.								0.000526		0.000701	
3. Pipe, Tube, and Other	Ave								0.000638		0.000851	
	Max.								0.00192		0.00255	
4. Fume Scrubber[5]	Ave.								0.0123		0.0164	
	Max.								0.0368		0.0491	
5. Acid Regeneration[6] (Absorber vent scrubber) (kg/day)	Ave.								0.0819		0.109	
	Max.								0.245		0.327	

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
c. Combination Acid Pickling												
1. Rod, Wire, and Coil	Ave.						0.000852			0.000638		
	Max.						0.00213			0.00192		
2. Bar, Billet, and Bloom	Ave.						0.000384			0.000288		
	Max.						0.000960			0.000864		
3. Strip, Sheet, and Plate - Continuous	Ave.						0.00250			0.00188		
	Max.						0.00626			0.00563		
4. Strip, Sheet, and Plate - Batch	Ave.						0.000768			0.000576		
	Max.						0.00192			0.00173		
5. Pipe, Tube, and Other	Ave.						0.00129			0.000964		
	Max.						0.00322			0.00289		
6. Fume Scrubber (kg/day)	Ave.						0.0327			0.0245		
	Max.						0.0819			0.0735		
J. Cold Forming[7]												
a. Cold Rolling												
1. Recirculation, Single Stand	Ave.						0.0000084		0.0000031	0.0000063	0.0000021	
	Max.				0.0000021	0.0000031	0.0000209		0.0000094	0.0000188	0.0000063	
2. Recirculation, Multiple Stands	Ave.				0.0000104	0.0000156	0.0000418		0.0000156	0.0000313	0.0000104	
	Max.						0.000104		0.0000469	0.0000939	0.0000313	
3. Combination	Ave.						0.000501		0.000188	0.000376	0.000125	
	Max.				0.000125	0.000188	0.00125		0.000563	0.00113	0.000376	

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
4. Direct Application, Single Stand	Ave.						0.000150		0.0000563	0.000113	0.0000376	
	Max.				0.0000376	0.0000563	0.000376		0.000169	0.000338	0.000113	
5. Direct Application, Multiple Stand	Ave.						0.000668		0.000250	0.000501	0.000167	
	Max.				0.000167	0.000250	0.00167		0.000751	0.00150	0.000501	
B. Cold Worked Pipe and Tube Mills												
1. Using Water	Ave.						0.0000084		0.0000031	0.0000063	0.0000021	
	Max.						0.0000209		0.0000094	0.0000188	0.0000063	
2. Using Oil Solutions	Ave.						0.0000084		0.0000031	0.0000063	0.0000021	
	Max.				0.0000021	0.0000031	0.0000209		0.0000094	0.0000188	0.0000063	
K. Alkaline Cleaning**												
L. Hot Coating												
a. Galvanizing and Other Coatings - Strip, Sheet, and Misc.	Ave.								0.000376		0.000500	0.0000501
	Max.								0.00113		0.00150	0.000150
b. Galvanizing - Wire Products and Fasteners	Ave.								0.00150		0.00200	0.000200
	Max.								0.00451		0.00601	0.000601
c. Fume Scrubbers (kg/day)	Ave.								0.0123		0.0164	0.00163
	Max.								0.0368		0.0491	0.00490

Ave. = Average of daily values for 30 consecutive days
Max. = Maximum for any one day

*This subpart is reserved.

**No numerical limits were established for industries in this subcategory. However, they are subject to the General Pretreatment Standards in 40 CFR 403.

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

[1] Increased loadings, not to exceed 24 percent of these standards, are allowed for by-product coke plants that have wet desulfurization systems, but only to the extent that such systems generate an increased effluent volume. Increased loadings, not to exceed 58 percent of these standards, are allowed for by-product coke plants that have indirect ammonia recovery systems, but only to the extent that such systems generate an increased effluent volume.

[2] Increased loadings, not to exceed 21 percent of these standards are allowed for by-product coke plants that have wet desulfurization systems, but only to the extent that such systems generate an increased effluent volume. Increased loadings, not to exceed 50 percent of these standards, are allowed for by-product coke plants that have indirect ammonia recovery systems, but only to the extent that such systems generate an increased effluent volume.

[3] The standards for ammonia-N, cyanide, and phenols (4AAP) are applicable only when sintering wastewater is treated along with ironmaking wastewater.

[4] These limits apply to each fume scrubber associated with sulfuric acid pickling operations.

[5] These limits apply to each fume scrubber associated with hydrochloric acid pickling operations.

[6] These limits apply to absorber vent scrubber wastewater associated with hydrochloric acid regeneration plants.

[7] For processes regulated by Subpart J, the limits on chromium and nickel apply in lieu of the limits on lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling waters.

IRON AND STEEL (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
A. Cokemaking 1. Iron and Steel[1]	Ave.	0.0322		0.0215				0.00859				
	Max.	0.0645		0.043				0.0172				
2. Merchant[2]	Ave.	0.0375		0.025				0.0100				
	Max.	0.0751		0.0501				0.0200				
3. Beehive*												
B. Sintering[3]	Ave.	0.00501		0.0000501				00.00501	0.000150		0.000225	
	Max.	0.0150		0.000100				0.00100	0.000451		0.000676	
C. Ironmaking 1. Iron	Ave.	0.00292		0.0000292				0.000292	0.0000876		0.000131	
	Max.	0.00876		0.0000584				0.000584	0.000263		0.000394	
2. Ferro-manganese*												
D. Steelmaking 1. Basic Oxygen Furnace (BOF): Semi-wet*												
2. BOF: Wet-open	Ave.								0.000138		0.000207	
	Max.								0.000413		0.000620	
3. BOF: Wet-suppressed	Ave.								0.0000626		0.0000939	
	Max.								0.000188		0.000282	
4. Open Hearth Furnace: Wet*												

IRON AND STEEL (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
5. Electric Arc Furnace (EAF): Semi-wet*												
6. EAF: Wet	Ave.								0.000138		0.000207	
	Max.								0.000413		0.000620	
E. Vacuum Degassing	Ave.								0.0000313		0.0000469	
	Max.								0.0000939		0.000141	
F. Continuous Casting	Ave.								0.0000313		0.0000469	
	Max.								0.0000939		0.000141	
G. Hot Forming**												
H. Salt Bath Descaling												
a. Oxidizing - 1. Batch, Sheet and Plate	Ave.						0.00117			0.000876		
	Max.						0.00292			0.00263		
2. Batch, Rod and Wire	Ave.						0.000701			0.000526		
	Max.						0.00175			0.00158		
3. Batch, Pipe and Tube	Ave.						0.00284			0.00213		
	Max.						0.00709			0.00638		
4. Continuous	Ave.						0.000551			0.000413		
	Max.						0.00138			0.00124		
b. Reducing - 1. Batch	Ave.						0.000542	0.000339		0.000407		
	Max.						0.00136	0.00102		0.00122		
2. Continuous	Ave.						0.00304	0.00190		0.00228		
	Max.						0.00759	0.00569		0.00683		

IRON AND STEEL (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
I. Acid Pickling a. Sulfuric Acid Pickling - 1. Rod, Wire, and Coil	Ave.								0.0000313		0.0000417	
	Max.								0.0000939		0.000125	
2. Bar, Billet, and Bloom	Ave.								0.0000188		0.0000250	
	Max.								0.0000563		0.0000751	
3. Strip, Sheet, and Plate	Ave.								0.0000250		0.0000334	
	Max.								0.0000751		0.000100	
4. Pipe, Tube, and Other	Ave.								0.0000438		0.0000584	
	Max.								0.000131		0.000175	
5. Fume Scrubber[4] (kg/day)	Ave.								0.0123		0.0164	
	Max.								0.0368		0.0491	
b. Hydrochloric Acid Pickling - 1. Rod, Wire, and Coil	Ave.								0.0000376		0.0000501	
	Max.								0.000113		0.000150	
2. Strip, Sheet, and Plate	Ave.								0.0000250		0.0000334	
	Max.								0.0000751		0.000100	
3. Pipe, Tube, and Other	Ave								0.0000688		0.0000918	
	Max.								0.000206		0.000275	
4. Fume Scrubber[5] (kg/day)	Ave.								0.0123		0.0164	
	Max.								0.0368		0.0491	

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

POLLUTANT LIMITS (in kg/kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
c. Combination Acid Pickling												
1. Rod, Wire, and Coil	Ave.						0.000117			0.0000876		
	Max.						0.000292			0.000263		
2. Bar, Billet, and Bloom	Ave.						0.0000667			0.0000501		
	Max.						0.000167			0.000150		
3. Strip, Sheet, and Plate - Continuous	Ave.						0.000284			0.000213		
	Max.						0.000710			0.000638		
4. Strip, Sheet, and Plate - Batch	Ave.						0.000100			0.0000751		
	Max.						0.000250			0.000225		
5. Pipe, Tube, and Other	Ave.						0.000167			0.000125		
	Max.						0.000418			0.000376		
6. Fume Scrubber (kg/day)	Ave.						0.0327			0.0245		
	Max.						0.0819			0.0735		
J. Cold Forming[6]												
a. Cold Rolling												
1. Recirculation, Single Stand	Ave.						0.0000084		0.0000031	0.0000063	0.0000021	
	Max.				0.0000021	0.0000031	0.0000209		0.0000094	0.0000188	0.0000063	
2. Recirculation, multiple Stands	Ave.						0.0000167		0.0000063	0.0000125	0.0000042	
	Max.				0.0000042	0.0000063	0.0000418		0.0000188	0.0000376	0.0000125	
3. Combination	Ave.						0.000217		0.0000814	0.000163	0.0000542	
	Max.				0.0000542	0.0000813	0.000543		0.000244	0.000488	0.000163	

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
4. Direct Application, Single	Ave.						0.0000418		0.0000156	0.0000313	0.0000104	
	Max.				0.0000104	0.0000156	0.000104		0.0000469	0.0000939	0.0000313	
5. Direct Application, Multiple Stand	Ave.						0.000484		0.000182	0.000363	0.000121	
	Max.				0.000121	0.000182	0.00121		0.000545	0.00109	0.000363	
b. Cold Worked Pipe and Tube Mills												
1. Using Water	Ave.						0.0000084		0.0000031	0.0000063	0.0000021	
	Max.						0.0000209		0.0000094	0.0000188	0.0000063	
2. Using Oil Solutions	Ave.				-	-	0.0000084		0.0000031	0.0000063	0.0000021	
	Max.				0.0000021	0.0000031	0.0000209		0.0000094	0.0000188	0.0000063	
K. Alkaline Cleaning**												
L. Hot Coating												
a. Galvanizing and Other Coatings - Strip, Sheet, and Misc.	Ave.								0.0000939		0.000125	0.0000125
	Max.								0.000282		0.000376	0.0000376
b. Galvanizing - Wire Products and Fasteners	Ave.								0.000376		0.000500	0.0000501
	Max.								0.00113		0.00150	0.000150
c. Fume Scrubbers (kg/day)	Ave.								0.0123		0.0164	0.00163
	Max.								0.0368		0.0491	0.00490

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

Ave. = Average of daily values for 30 consecutive days
Max. = Maximum for any one day

*This subpart is reserved.

**No numerical limits were established for industries in this subcategory. However, they are subject to the General Pretreatment Standards in 40 CFR 403.

[1] Increased loadings, not to exceed 24 percent of these standards, are allowed for by-product coke plants that have wet desulfurization systems, but only to the extent that such systems generate an increased effluent volume. Increased loadings, not to exceed 58 percent of these standards, are allowed for by-product coke plants that have indirect ammonia recovery systems, but only to the extent that such systems generate an increased effluent volume.

[2] Increased loadings, not to exceed 21 percent of these standards are allowed for by-product coke plants that have wet desulfurization systems, but only to the extent that such systems generate an increased effluent volume. Increased loadings, not to exceed 50 percent of these standards, are allowed for by-product coke plants that have indirect ammonia recovery systems, but only to the extent that such systems generate an increased effluent volume.

[3] The standards for ammonia-N, cyanide, and phenols (4AAP) are applicable only when sintering wastewater is treated along with ironmaking wastewater.

[4] These limits apply to each fume scrubber associated with sulfuric acid pickling operations.

[5] These limits apply to each fume scrubber associated with hydrochloric acid pickling operations.

[6] For processes regulated by Subpart J, the limits on chromium and nickel apply in lieu of the limits on lead and zinc when cold forming wastewaters are treated with descaling or combination acid pickling waters.

40 CFR PART 425

LEATHER TANNING AND FINISHING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Leather Tanning and Finishing category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this category. The Leather Tanning and Finishing standards were established by the Environmental Protection Agency in Part 425 of Title 40 of the Code of Federal Regulations (40 CFR 425). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	July 2, 1979	Vol. 44, p. 38746
Final Rule	November 23, 1982	Vol. 47, p. 52848
Amendment	June 30, 1983	Vol. 48, p. 30115
Amendment	July 8, 1983	Vol. 48, p. 31403
Correction	July 15, 1983	Vol. 48, p. 32346
Correction	August 5, 1983	Vol. 48, p. 35649
Amendment	September 15, 1983	Vol. 48, p. 41409
Amendment	March 21, 1988	Vol. 53, p. 9176

APPLICABLE DATES

Effective Date for all subcategories except Subpart C: January 6, 1983
Effective Date for Subpart C: May 4, 1988
Baseline Monitoring Report (BMR) Due Date: July 5, 1983
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES) for all subcategories except Subpart C: November 25, 1985

- Pretreatment Standards for Existing Sources (PSES) for Subpart C: March 31, 1989

- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

AMENDMENTS OF MARCH 21, 1988 FINAL RULE

1. Addition of new analytical method, the modified Monier-Williams method, for the determination of the presence of sulfide in wastewaters for use in Subpart C.

2. EPA has amended §425.04 to permit a POTW to initiate proceedings, revoke, or issue certification on the inapplicability of the sulfide pretreatment standards subsequent to the original October 13, 1983 deadline.

3. EPA has removed the upper limit for pH for vegetable tanneries in subpart C. The upper limit was established because of the increased solubility of chromium at pH levels in excess of 10. Vegetable tanneries typically discharge low levels of chromium, hence the amended limitation. The higher pH pretreatment standards for the other subcategories remain.

4. The small tannery exemptions from the pretreatment standards for chromium have been revised so that they are based solely on a specified number of hides/splits per day and are not dependent on the annual weight or number of working days per year.

5. Clarifies the production levels below which the chromium pretreatment standards for existing sources (PSES) do not apply.

SUBCATEGORIES AND SIC CODES AFFECTED

The Leather Tanning and Finishing category is broken down into nine subcategories based on the raw materials (hide or skin type) and the three major groups of subprocesses used:

- Beamhouse - hair removal
- Tanyard - tanning
- Retan-Wet Finish - further tanning, coloring, oil replenishment, surface coating.

Each of the nine subcategories is described below.

Hair Pulp, Chrome Tan, Retan-Wet Finish subcategory (Subpart A) applies to process wastewater discharges from any tannery operation that, either exclusively or in addition to other unhairing and tanning operations, processes raw or cured cattle or cattle-like hides into finished leather by chemically dissolving the hide hair, chrome tanning, and retan-wet finishing. Chrome tanning is the process of converting hide into leather using a form of chromium. Retan-wet finishing are the final processing steps performed on a tanned hide. They include, but are not limited to, the following wet process: retan, bleach, color and fatliquor.

Hair Save, Chrome Tan, Retan-Wet Finish subcategory (Subpart B) applies to process wastewater discharges from any tannery operation that processes raw or cured cattle or cattle-like hides into finished leather by hair save unhairing, chrome tanning, and retan-wet finishing. The hair save unhairing process involves the physical or mechanical removal of hair which has not been chemically dissolved. The hair is then sold as a by product or disposed of as a solid waste.

Hair Save or Pulp, Nonchrome Tan, Retan-Wet Finish subcategory (Subpart C) applies to process wastewater discharges from any tannery operation that processes raw or cured cattle or cattle-like hides into finished leather by hair save or pulp unhairing, vegetable tanning, and retan-wet finishing. Pulp unhairing is the removal of hair by chemically dissolving it. Vegetable tanning is the process of converting hides into leather using chemicals either derived from vegetable matter or synthesized to produce the same effects. These tanning agents include, but are not limited to, alum, syntans and oils.

Retan-Wet Finish-Sides subcategory (Subpart D) applies to process wastewater discharged from any tannery operation that processes previously tanned hides and skins (grain side only) into finished leather by retan-wet finishing.

The No Beamhouse subcategory (Subpart E) applies to process wastewater discharges from any tannery that processes cattle hides, sheepskins, or splits (hair previously removed and pickled) into finished leather by chrome or non-chrome tanning, and retan-wet finishing.

Through-the-Blue subcategory (Subpart F) applies to process wastewater discharged from any tannery that processes raw or cured cattle or cattle-like hides through the blue-tanned state by hair pulp unhairing and chrome tanning. No retan-wet finishing is performed.

The Shearling subcategory (Subpart G) applies to process wastewater discharges from any tannery that processes raw or cured sheep or sheep-like skins with the wool or hair retaned into finished leather by chrome tanning or retan-wet finishing.

The Pigskin subcategory (Subpart H) applies to process wastewater discharges from any tannery that processes raw or cured pigskins into finished leather by chemically dissolving or pulping the hair and tanning with chrome, then retan-wet finishing.

The Retan-Wet Finish-Splits subcategory (Subpart I) applies to process wastewater discharges from any tannery that processes previously unhaired and tanned splits into finished leather by retan-wet finishing.

Industries in the Leather Tanning and Finishing category are included within the Standard Industrial Classification (SIC) code 3111.

REGULATED POLLUTANTS

The pollutants regulated by both the PSES and PSNS for all nine subcategories of the Leather Tanning and Finishing category are total chromium and pH. Sulfide is also regulated, but only for Subcategories A, B, C, F and H.

(It should be noted that the analytical method for determination of sulfide in alkaline wastewaters is specified in the Leather Tanning and Finishing Regulations (40 FR 425.03) and was revised in the March 21, 1988 amendments.) The sulfide standard will not apply if the receiving POTW certifies, after consideration of all relevant factors, that the sulfide discharged by a particular facility does not interfere with the treatment works. This certification must have been written and filed with EPA by January 11, 1984 for existing facilities. If this certification was made and EPA determined that it was accurate, EPA would have published a notice in the Federal Register by February 10, 1984 identifying those facilities to which the sulfide pretreatment standard does not apply. For new facilities, this certification must be submitted prior to discharge by the industrial facility. For further information concerning the sulfide waiver, consult the Federal Register (Vol. 47, page 52848, November 23, 1982 and Vol 53, pg. 9179, March 21, 1988).

PRETREATMENT STANDARDS FOR EXISTING SOURCES AND NEW SOURCES

The PSES and PSNS for all nine subcategories of the Leather Tanning and Finishing category are summarized in the following table. The PSES and PSNS for each subcategory are identical, except that the total chromium limitation does not apply to existing sources in Subcategories A, C, and I under certain circumstances (see footnotes to the table). All standards are concentration based and are in units of milligrams per liter (mg/l).

PRETREATMENT STANDARDS FOR EXISTING SOURCES AND NEW SOURCES

Subcategory	Sulfide[e] Max. for Any One Day (mg/l)	Sulfide[e] Max. for Monthly Average (mg/l)	Total Chromium Max. for Any One Day (mg/l)	Total Chromium Max. for Monthly Average (mg/l)	pH Max. for Any One Day	pH Max. for Monthly Average
A. Hair Pulp, Chrome Tan, Retan-Wet Finish[a]	24	--	12	8	7.0-10.0	7.0-10.0
B. Hair Save, Chrome Tan, Retan-Wet Finish	24	--	12	8	7.0-10.0	7.0-10.0
C. Hair Save or Pulp, Nonchrome Tan, Retan-Wet Finish[b]	24	--	12	8	$\geq$ 7.0	$\geq$ 7.0
D. Retan-Wet Finish Sides	--	--	19	12	6.0-10.0	6.0-10.0
E. No Beamhouse	--	--	19	12	6.0-10.0	6.0-10.0
F. Through-The-Blue	24	--	12	8	7.0-10.0	7.0-10.0
G. Shearling[c]	--	--	19	12	6.0-10.0	6.0-10.0
H. Pigskin	24	--	12	8	7.0-10.0	7.0-10.0
I. Retan-Wet Finish-Splits[d]	--	--	19	12	6.0-10.0	6.0-10.0

[a]Any existing source in Subcategory A that processes less than 275 hides/day (3.9 million lbs/year, at 260 working days/year) is not required to comply with the total chromium limits.

[b]Any existing source in Subcategory C that processes less than 350 hides/day (5.4 million lbs/year, at 260 working days/year) is not required to comply with the total chromium limits.

[c]Any existing source in Subcategory G that processes less than 3,600 splits/day is not required to comply with the total chromium limits.

[d]Any existing source in Subcategory I that processes less than 3,600 splits/day (3.7 million lbs/year, at 260 working days/year) is not required to comply with the total chromium limits.

[e]Some POTWs may choose to certify to EPA that the sulfide pretreatment standard should be waived for some leather tanning and finishing facilities. The certification will be based on site-specific factors related to sulfide interference with a POTW's operation and is subject to revocation if the POTW determines that there have been changed circumstances which justify application of the sulfide pretreatment standards.

40 CFR PART 433

METAL FINISHING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Metal Finishing category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with standards for this industrial category. The Metal Finishing standards were established by the Environmental Protection Agency in Part 433 of Title 40 of the Code of Federal Regulations (40 CFR 433). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	August 31, 1982	Vol. 47, p. 38462
Final Rule	July 15, 1983	Vol. 48, p. 32462
Amendments	September 15, 1983	Vol. 48, p. 41409
	September 26, 1983	Vol. 48, p. 43680
	September 4, 1984	Vol. 49, p. 34823
	November 7, 1986	Vol. 51, p. 40420

APPLICABLE DATES

Effective Date: August 29, 1983
Baseline Monitoring Report (BMR) Due Date: February 25, 1984
Compliance Dates:

- Pretreatment Standards for Existing Sources[1] (PSES) for the interim level of Total Toxic Organics (TTO): June 30, 1984 (July 10, 1985, for plants also subject to the Iron and Steel categorical standards in 40 CFR 420)[2]
- Pretreatment Standards for Existing Sources* (PSES) for all Pollutants, including Metals, Cyanide, and the more stringent level of TTO: February 15, 1986
- Pretreatment Standards for New Sources* (PSNS): From commencement of discharge

[1]New sources are industrial facilities that began construction of the regulated process after the publication date of the proposed rule. In the case of industries regulated by the Metal Finishing Regulation, that date is August 31, 1982.

[2]This interim limit on TTO of 4.57 mg/l has been established based on management practices only, prior to the installation of pretreatment equipment or changes in pretreatment facilities.

SUBCATEGORIES

There are no subcategories. Limits are concentration-based and can be applied to all metal finishing process discharges.

SIC CODES AFFECTED

EPA has not yet identified specific SIC codes that will be affected by the Metal Finishing standards. However, if a plant discharges wastewater from one of the processes listed below, the standards apply except as also indicated. If there are any questions on the applicability of Metal Finishing Standards, contact EPA or the Control Authority.

REGULATED PROCESSES

The Metal Finishing standards apply to firms that are engaged in electroplating, electroless plating, anodizing, coating, chemical etching, or printed circuit board manufacturing. If a firm performs any of these operations, then its discharges from the following 40 unit processes are also regulated by the Metal Finishing standards.

1. Cleaning
2. Machining
3. Grinding
4. Polishing
5. Tumbling
6. Burnishing
7. Impact Deformation
8. Pressure Deformation
9. Shearing
10. Heat Treating
11. Thermal Cutting
12. Welding
13. Brazing
14. Soldering
15. Flame Spraying
16. Sand Blasting
17. Other Abrasive Jet Machining
18. Electric Discharge Machining
19. Electrochemical Machining
20. Electron Beam Machining
21. Laser Beam Machining
22. Plasma Arc Machining
23. Ultrasonic Machining
24. Sintering
25. Laminating
26. Hot Dip Coating
27. Sputtering
28. Vapor Plating
29. Thermal Infusion
30. Salt Bath Descaling
31. Solvent Degreasing
32. Paint Stripping
33. Painting
34. Electrostatic Painting
35. Electropainting
36. Vacuum Metalizing
37. Assembly
38. Calibration
39. Testing
40. Mechanical Plating

[4]A job shop as defined in 40 CFR Part 433.11(c) is a facility which owns not more than 50 percent (annual area basis) of the materials undergoing metal finishing.

[5]An independent printed circuit board manufacturer as defined in 40 CFR Part 433.11(d) is a facility which manufactures printed circuit boards principally for sale to other companies.

The Metal Finishing PSES apply in addition to the standards for firms regulated under the Electroplating category, except for existing job shop electroplaters and existing independent printed circuit board manufacturers Job shop electroplaters and independent printed circuit board manufacturers that began construction of the regulated processes after August 31, 1982 are regulated by the Metal Finishing Regulation. Facilities in existence prior to August 31, 1982 are regulated by the Electroplating Regulation. Also exempt from the Metal Finishing standards are metallic platemaking and gravure cylinder preparation conducted at printing and publishing facilities. The Metal Finishing PSNS apply to all new sources regulated under the Metal Finishing and Electroplating categories.

In some cases, another categorical standard may cover discharges from a metal finishing operation. If so, the more specific standard will apply to the wastestream. For example, if a firm performs two operations, coating in preparation for painting and electroless plating in preparation for porcelain enameling, the Metal Finishing standards would apply to discharges from the coating process, while the porcelain enameling standard would apply to discharges from the second operation. When such overlaps occur, the following standards will supersede the Metal Finishing standards:

- Nonferrous Metal Smelting and Refining (40 CFR Part 421)
- Coil Coating (40 CFR Part 465)
- Porcelain Enameling (40 CFR Part 466)
- Battery Manufacturing (40 CFR Part 461)
- Iron and Steel (40 CFR Part 420)
- Metal Molding and Casting (Foundries) (40 CFR Part 464)
- Aluminum Forming (40 CFR Part 467)
- Copper Forming (40 CFR Part 468)
- Plastic Molding and Forming (40 CFR Part 463).

REGULATED POLLUTANTS

The pollutants regulated under the Metal Finishing standards are cadmium, chromium, copper, lead, nickel, silver, zinc, cyanide, and total toxic organics (TTO). For this category, TTO is defined in 40 CFR 433.11(e) as "the summation of all quantifiable values greater than 0.01 milligrams per liter for the following toxic organics":

acenaphthene
acrolein
acrylonitrile
benzene
benzidine
carbon tetrachloride
chlorobenzene
1,2,4-trichlorobenzene
hexachlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
hexachloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
chloroethane
bis (2-chloroethyl) ether
2-chloroethyl vinyl ether (mixed)
2-chloronaphthalene
2,4,6-trichlorophenol
parachlorometa cresol
chloroform (trichloromethane)
2-chlorophenol
1,2-dichlorobenzene

1,3-dichlorobenzene
1,4-dichlorobenzene
3,3-dichlorobenzidine
1,1-dichloroethylene
1,2-trans-dichloroethylene
2,4-dichlorophenol
1,2-dichloropropane
1,3-dichloropropylene
(1,3-dichloropropene)
2,4-dimethylphenol
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
ethylbenzene
fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
bis (2-chlorisopropyl) ether
bis (2-chloroethoxy) methane
methylene chloride
(dichloromethane)
methyl chloride (chloromethane)
methyl bromide (bromomethane)
bromoform (tribromomethane)
dichlorobromomethane
chlorodibromomethane
hexachlorobutadiene
hexachlorocyclopentadiene
isophorone
naphthalene
nitrobenzene
nitrophenol
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine
pentachlorophenol
phenol
bis (2-ethylhexyl) phthalate
butyl ben~~zyl~~ phthalate
di-n-butyl phthalate
di-n-octyl phthalate
diethyl phthalate
dimethyl phthalate
benzo (a) anthracene
(1,2-benzanthracene)
benzo (a) pyrene (3,4-benzopyrene)
3,4-benzofluoranthene
benzo (k) fluoranthane
(11,12-benzofluoranthene)
chrysene
acenaphthylene
anthracene
benzo (ghi) perylene
(1,12-benzoperylene)
fluorene
phenanthrene
dibenzo (a,h) anthracene
(1,2,5,6-dibenzanthracene)
indeno (1,2,3-cd) pyrene
(2,3-o-phenylenepyrene)
pyrene
tetrachloroethylene
toluene
trichloroethylene
vinyl chloride (chloroethylene)
aldrin
dieldrin
chlordane (technical mixture &
metabolites)
4,4'-DDT
4,4'-DDE (p,p'-DDX)
4,4'-DDD (p,p'-TDE)
Alpha-endosulfan
Beta-endosulfan
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxide
Alpha-BHC
Beta-BHC
Gamma-BHC (lindane)
Delta-BHC
PCB-1242 (Arochlor 1242)
PCB-1254 (Arochlor 1254)
PCB-1221 (Arochlor 1221)
PCB-1232 (Arochlor 1232)
PCB-1248 (Arochlor 1248)
PCB-1260 (Arochlor 1260)
PCB-1016 (Arochlor 1016)
toxaphene
2,3,7,8-tetrachlorodibenzo-p-
dioxin (TCDD)

Dischargers must conduct TTO monitoring for the BMR and the 90-day compliance report as outlined by EPA in the Guidance Manual for Implementing Total Toxic Organics (TTO) Pretreatment Standards. However, dischargers may be exempt from conducting routine (semiannual) monitoring for TTO if they certify that toxic organics are not used in the facility or are controlled through implementation of a toxic organics management plan. The discharger must submit to the Control Authority for approval a toxic organics management plan that specifies the toxic organic compounds used and the facility's methods of disposal and spill-prevention measures. The discharger must also provide the Control Authority with the certification statement found in 40 CFR 433.12(a) at the time of submission of the toxic organics management plan and with all subsequent periodic reports on continued compliance.

If monitoring for TTO is necessary to measure compliance with the TTO standard, the industrial discharger may be allowed to analyze only for those pollutants that would reasonably be expected to be present in the discharge.

Cyanide monitoring must take place after cyanide treatment and before dilution with other wastestreams unless an adjustment is made to account for the dilution ratio of the cyanide wastestream flow to the effluent flow. Also, if an agreement is made between the discharger and the Control Authority, the amenable cyanide (Cyanide, A) limit may apply instead of the total cyanide (Cyanide, T) limit.

PRETREATMENT STANDARDS FOR EXISTING SOURCES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed
Cadmium	0.69	0.26
Chromium	2.77	1.71
Copper	3.38	2.07
Lead	0.69	0.43
Nickel	3.98	2.38
Silver	0.43	0.24
Zinc	2.61	1.48
Cyanide, T	1.20	0.65
Cyanide, A	0.86	0.32
TTO*	2.13	--

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed
Cadmium	0.11	0.07
Chromium	2.77	1.71
Copper	3.38	2.07
Lead	0.69	0.43
Nickel	3.98	2.38
Silver	0.43	0.24
Zinc	2.61	1.48
Cyanide, T	1.20	0.65
Cyanide, A	0.86	0.32
TTO	2.13	--

*The interim TTO limit for existing sources is 4.57 mg/l, which is in effect from June 30, 1984, until February 14, 1986. On February 15, 1986, the final TTO limit of 2.13 mg/l becomes effective.

40 CFR PART 464

METAL MOLDING AND CASTING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms in the Metal Molding and Casting category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with the pretreatment standards of this industrial category. The Metal Molding and Casting standards were established by the Environmental Protection Agency under Part 464 of Title 40 of the Code of Federal Regulations (40 CFR 464). This summary is not intended to substitute the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations give below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	November 15, 1982	Vol. 47, p. 51512
Final Rule	October 30, 1985	Vol. 50, p. 45212
Correction	June 16, 1986	Vol. 51, p. 21760

APPLICABLE DATES

Effective Date: December 13, 1985
Baseline Monitoring Report (BMR) Due Date: June 11, 1986
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): October 31, 1988
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Metal Molding and Casting category comprises facilities that remelt a metal or its alloy to form a cast intermediate or final product by pouring or forcing the molten metal into a mold. The casting of ingots, pigs, or other cast shapes related to primary metal smelting are not included in this category. The Metal Molding and Casting category is divided into four subcategories, depending on the type of metal cast. These subcategories are further broken down into the manufacturing process segments that are sources of process wastewater.

Metal molding and casting facilities are included in Standard Industrial Classification (SIC) Major Group 33 - Primary Metal Industries. The subgroups covered by this regulation are classified under SIC codes 3321, 3322, 3324, 3325, 3361[1], 3362, and 3369.

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[1]This SIC code is now classified as 3365 and 3363.

REGULATED POLLUTANTS

The pollutants regulated by pretreatment standards for existing and new sources (PSES and PSNS) in this industrial category are copper, lead, zinc, phenols, TTO, and oil and grease. Not all of these pollutants are controlled in each of the subcategories. Limits are established only where the pollutant appears in treatable concentrations in the raw wastewater.

The term total toxic organics (TTO) shall mean the sum of the mass of each of the specified toxic organic compounds which are found in the discharge at a concentration greater than 0.01 mg/l. For this category, the toxic organics regulated as the parameter, TTO, are defined as discrete lists of pollutants for each process segment of each subpart that is regulated by a TTO standard. The specific toxic organics regulated as TTO are identified in 40 CFR 464.11, 464.21, 464.31, and 464.41. As established by EPA in the Guidance Manual for Implementing Total Toxic Organics (TTO) Pretreatment Standards, industrial dischargers subject to standards for TTO are required to submit the results of monitoring for all regulated toxic organics to the Control Authority in the BMR, the 90-day compliance report, and subsequent semiannual reports on continued compliance. However, as an alternative to monitoring for TTO, indirect dischargers may measure and limit oil and grease to the levels established by each PSES and PSNS. Any indirect discharger meeting the alternative oil and grease standards will be considered to be meeting the appropriate TTO standards. Should industrial users elect to performing alternative monitoring for oil and grease, the results of such monitoring must be submitted in place of TTO monitoring data to the Control Authority in the BMR, 90-day compliance report, and all subsequent reports on continued compliance.

SUBCATEGORY A - ALUMINUM CASTING

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

(a) Casting Cleaning Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0771	0.0421
Lead (T)	0.0791	0.039
Zinc (T)	0.114	0.0431

SUBCATEGORY A - PSES (cont.)

(b) Casting Quench Operation

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0093	0.0051
Lead (T)	0.0096	0.0047
Zinc (T)	0.0138	0.0052
TTO	0.029	0.0095
Oil & Grease[1]	0.363	0.121

(c) Die Casting Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0066	0.0036
Lead (T)	0.0068	0.0034
Zinc (T)	0.0098	0.0037
Total Phenols	0.0074	0.0026
TTO	0.0308	0.01
Oil and Grease[1]	0.259	0.0864

(d) Dust Collection Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	0.231	0.126
Lead (T)	0.237	0.117
Zinc (T)	0.343	0.129
Total Phenols	0.258	0.09
TTO	0.613	0.2
Oil & Grease[1]	9.01	3.00

(e) Grinding Scrubber Operations

There shall be no discharge of process wastewater pollutants to a publicly-owned treatment works (POTWs).

(f) Investment Casting

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	8.48	4.63
Lead (T)	8.7	4.3
Zinc (T)	12.6	4.74
TTO	18.1	5.91
Oil & Grease[1]	330	110

(g) Melting Furnace Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	3.01	1.64
Lead (T)	3.09	1.52
Zinc (T)	4.45	1.68
Total Phenols	3.36	1.17
TTO	7.97	2.6
Oil & Grease[1]	117	39.1

(h) Mold Cooling Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.297	0.162
Lead (T)	0.305	0.151
Zinc (T)	0.44	0.166
TTO	0.935	0.304
Oil & Grease[1]	11.6	3.86

[1]Oil and Grease is an alternative monitoring parameter for TTO.

SUBCATEGORY A - ALUMINUM CASTING (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

(a) Casting Cleaning Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0771	0.0421
Lead (T)	0.0791	0.039
Zinc (T)	0.114	0.0431

(b) Casting Quench Operation

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0093	0.0051
Lead (T)	0.0096	0.0047
Zinc (T)	0.0138	0.0052
TTO	0.029	0.0095
Oil & Grease[1]	0.363	0.121

(c) Die Casting Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0066	0.0036
Lead (T)	0.0068	0.0034
Zinc (T)	0.0098	0.0037
Total Phenols	0.0074	0.0026
TTO	0.0308	0.01
Oil and Grease[1]	0.259	0.0864

SUBCATEGORY A - PSNS (cont.)

(d) Dust Collection Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 of air scrubbed	(pounds per billion SCF)
Copper (T)	0.231	0.126
Lead (T)	0.237	0.117
Zinc (T)	0.343	0.129
Total Phenols	0.258	0.09
TTO	0.613	0.2
Oil & Grease[1]	9.01	3.00

(e) Grinding Scrubber Operations

There shall be no discharge of process wastewater pollutants to a publicly-owned treatment works (POTWs).

(f) Investment Casting

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg of metal poured	(pounds per million pounds)
Copper (T)	8.48	4.63
Lead (T)	8.7	4.3
Zinc (T)	12.6	4.74
TTO	18.1	5.91
Oil & Grease[1]	330	110

(g) Melting Furnace Scrubber Operations

Pollutant ~~or~~ Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 of air scrubbed	(pounds per billion SCF)
Copper (T)	3.01	1.64
Lead (T)	3.09	1.52
Zinc (T)	4.45	1.68
Total Phenols	3.36	1.17
TTO	7.97	2.6
Oil & Grease[1]	117	39.1

SUBCATEGORY A - PSNS (cont.)

(h) Mold Cooling Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.297	0.162
Lead (T)	0.305	0.151
Zinc (T)	0.44	0.166
TTO	0.935	0.304
Oil & Grease[1]	11.6	3.86

[1]Oil and Grease is an alternative monitoring parameter for TTO.

SUBCATEGORY B - COPPER CASTING

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

(a) Casting Quench Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0307	0.0168
Lead (T)	0.0211	0.0104
Zinc (T)	0.0303	0.0116
TTO	0.0335	0.0109
Oil & Grease[1]	1.2	0.399

(b) Direct Chill Casting Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.928	0.506
Lead (T)	0.639	0.314
Zinc (T)	0.916	0.35

SUBCATEGORY B - PSES (cont.)

(c) Dust Collection Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	0.552	0.301
Lead (T)	0.38	0.187
Zinc (T)	0.545	0.208
Total Phenols	0.617	0.215
TTO	1.65	0.54
Oil & Grease[1]	21.5	7.18

(d) Grinding Scrubber Operations

There shall be no discharge of process wastewater pollutants to a publicly-owned treatment works (POTWs).

(e) Investment Casting

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	8.48	4.63
Lead (T)	5.84	2.86
Zinc (T)	8.37	3.19
TTO	25.4	8.29
Oil & Grease[1]	330	110

(f) Melting Furnace Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	1.81	0.988
Lead (T)	1.25	0.612
Zinc (T)	1.79	0.673
Total Phenols	2.02	0.706
TTO	5.41	1.77
Oil & Grease[1]	70.6	23.5

SUBCATEGORY B - PSES (cont.)

(g) Mold Cooling Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.392	0.214
Lead (T)	0.27	0.132
Zinc (T)	0.387	0.148
TTO	0.428	0.14
Oil & Grease[1]	15.3	5.09

[1]Oil and Grease is an alternative monitoring parameter for TTO.

SUBCATEGORY B - COPPER CASTING (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

(a) Casting Quench Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0307	0.0168
Lead (T)	0.0211	0.0104
Zinc (T)	0.0303	0.0116
TTO	0.0335	0.0109
Oil & Grease[1]	1.2	0.399

(b) Direct Chill Casting Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.928	0.506
Lead (T)	0.639	0.314
Zinc (T)	0.916	0.35

SUBCATEGORY B - PSNS (cont.)

(c) Dust Collection Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	0.552	0.301
Lead (T)	0.38	0.187
Zinc (T)	0.545	0.208
Total Phenols	0.617	0.215
TTO	1.65	0.54
Oil & Grease[1]	21.5	7.18

(d) Grinding Scrubber Operations

There shall be no discharge of process wastewater pollutants to a publicly-owned treatment works (POTWs).

(e) Investment Casting

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	8.48	4.63
Lead (T)	5.84	2.86
Zinc (T)	8.37	3.19
TTO	25.4	8.29
Oil & Grease[1]	330	110

(f) Melting Furnace Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	1.81	0.988
Lead (T)	1.25	0.612
Zinc (T)	1.79	0.673
Total Phenols	2.02	0.706
TTO	5.41	1.77
Oil & Grease[1]	70.6	23.5

SUBCATEGORY B - PSNS (cont.)

(g) Mold Cooling Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.392	0.214
Lead (T)	0.27	0.132
Zinc (T)	0.387	0.148
TTO	0.428	0.14
Oil & Grease[1]	15.3	5.09

[1]Oil and Grease is an alternative monitoring parameter for TTO.

SUBCATEGORY C - FERROUS CASTING

There are two levels of PSES and PSNS provisions for this subcategory. Level A is applicable to facilities which meet the following conditions:

- Cast primarily ductile iron and pour greater than 3,557 tons of metal per year
- Cast primarily malleable iron and pour greater than 3,557 tons of metal per year
- Cast primarily gray iron and pour greater than 1,784 tons of metal per year.

Level B is applicable to facilities which cast primarily the metals listed above but that pour those metals in quantities per year less than or equal to the amounts indicated above.

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

(a) Level A

(1) Casting Cleaning Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0129	0.0071
Lead (T)	0.0237	0.0116
Zinc (T)	0.0437	0.0165

(2) Casting Quench Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0138	0.0076
Lead (T)	0.0252	0.0124
Zinc (T)	0.0466	0.0176
TTO	0.0257	0.00838
Oil & Grease[1]	1.43	0.476

(3) Dust Collection Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	0.218	0.12
Lead (T)	0.398	0.195
Zinc (T)	0.736	0.278
Total Phenols	0.646	0.225
TTO	2.04	0.664
Oil & Grease[1]	22.5	7.51

(4) Grinding Scrubber Operations

There shall be no discharge of process wastewater pollutants to a publicly owned treatment works (POTW).

(5) Investment Casting

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	3.19	1.76
Lead (T)	5.84	2.86
Zinc (T)	10.8	4.07
TTO	13.2	4.3
Oil & Grease[1]	330	110

SUBCATEGORY C - PSES (cont.)

(6) Melting Furnace Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per million SCF) of air scrubbed	
Copper (T)	1.02	0.561
Lead (T)	1.86	0.911
Zinc (T)	3.44	1.30
Total Phenols	3.01	1.05
TTO	8.34	2.73
Oil & Grease[1]	105	35

(7) Mold Cooling Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0428	0.0236
Lead (T)	0.0783	0.0384
Zinc (T)	0.145	0.0546
TTO	0.0797	0.026
Oil & Grease[1]	4.43	1.48

(8) Slag Quench Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0527	0.0291
Lead (T)	0.0964	0.0473
Zinc (T)	0.178	0.0673
TTO	0.0257	0.00838
Oil & Grease[1]	5.46	1.82

SUBCATEGORY C - PSES (cont.)

(9) Wet Sand Reclamation Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of sand reclaimed	
Copper (T)	0.217	0.12
Lead (T)	0.396	0.194
Zinc (T)	0.732	0.276
Total Phenols	0.642	0.224
TTO	1.18	0.386
Oil & Grease[1]	22.4	7.47

[1]Oil and Grease is an alternative monitoring parameter for TTO.

SUBCATEGORY C - FERROUS CASTING - PSES (cont.)

(b) Level B

(1) Casting Cleaning Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0129	0.0071
Lead (T)	0.0353	0.0174
Zinc (T)	0.0656	0.025

(2) Casting Quench Operations

Pollutant ~~or~~ Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0138	0.0076
Lead (T)	0.0376	0.0185
Zinc (T)	0.0699	0.0266
TTO	0.0257	0.00838
Oil & Grease[1]	1.43	0.476

SUBCATEGORY C - PSES (cont.)

(3) Dust Collection Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	0.218	0.12
Lead (T)	0.593	0.293
Zinc (T)	1.1	0.421
Total Phenols	0.656	0.225
TTO	2.04	0.664
Oil & Grease[1]	22.5	7.51

(4) Grinding Scrubber Operations

There shall be no discharge of process wastewater pollutants to a publicly owned treatment works (POTW).

(5) Investment Casting

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	3.19	1.76
Lead (T)	8.7	4.3
Zinc (T)	16.2	6.17
TTO	13.2	4.3
Oil & Grease[1]	330	110

(6) Melting Furnace Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	1.02	0.561
Lead (T)	2.77	1.37
Zinc (T)	5.15	1.96
Total Phenols	3.01	1.05
TTO	8.34	2.73
Oil & Grease[1]	105	35

SUBCATEGORY C - PSES (cont.)

(7) Mold Cooling Operatic

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0428	0.0236
Lead (T)	0.117	0.0576
Zinc (T)	0.217	0.0827
TTO	0.0797	0.026
Oil & Grease[1]	4.43	1.48

(8) Slag Quench Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0527	0.0291
Lead (T)	0.144	0.0709
Zinc (T)	0.267	0.102
TTO	0.0257	0.00838
Oil & Grease[1]	5.46	1.82

(9) Wet Sand Reclamation

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of sand reclaimed	
Copper (T)	0.217	0.12
Lead (T)	0.59	0.291
Zinc (T)	1.1	0.418
Total Phenols	0.642	0.224
TTO	1.18	0.386
Oil & Grease[1]	22.4	7.47

[1]Oil and Grease is an alternative monitoring parameter for TTO.

SUBCATEGORY C - FERROUS CASTING (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

(a) Level A

(1) Casting Cleaning Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0129	0.0071
Lead (T)	0.0237	0.0116
Zinc (T)	0.0437	0.0165

(2) Casting Quench Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0138	0.0076
Lead (T)	0.0252	0.0124
Zinc (T)	0.0466	0.0176
TTO	0.0257	0.00838
Oil & Grease[1]	1.43	0.476

(3) Dust Collection Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	0.218	0.12
Lead (T)	0.398	0.195
Zinc (T)	0.736	0.278
Total Phenols	0.646	0.225
TTO	2.04	0.664
Oil & Grease[1]	22.5	7.51

SUBCATEGORY C - PSNS (cont.)

(4) Grinding Scrubber Operations

There shall be no discharge of process wastewater pollutants to a publicly owned treatment works (POTW).

(5) Investment Casting

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	3.19	1.76
Lead (T)	5.84	2.86
Zinc (T)	10.8	4.07
TTO	13.2	4.3
Oil & Grease[1]	330	110

(6) Melting Furnace Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per million SCF) of air scrubbed	
Copper (T)	1.02	0.561
Lead (T)	1.86	0.911
Zinc (T)	3.44	1.30
Total Phenols	3.01	1.05
TTO	8.34	2.73
Oil & Grease[1]	105	35

(7) Mold Cooling Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0428	0.0236
Lead (T)	0.0783	0.0384
Zinc (T)	0.145	0.0546
TTO	0.0797	0.026
Oil & Grease[1]	4.43	1.48

SUBCATEGORY C - PSNS (cont.)

(8) Slag Quench Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0527	0.0291
Lead (T)	0.0964	0.0473
Zinc (T)	0.178	0.0673
TTO	0.0257	0.00838
Oil & Grease[1]	5.46	1.82

(9) Wet Sand Reclamation Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of sand reclaimed	
Copper (T)	0.217	0.12
Lead (T)	0.396	0.194
Zinc (T)	0.732	0.276
Total Phenols	0.642	0.224
TTO	1.18	0.386
Oil & Grease[1]	22.4	7.47

[1]Oil and Grease is an alternative monitoring parameter for TTO.

SUBCATEGORY C - FERROUS CASTING - PSNS (cont.)

(b) Level B

(1) Casting Cleaning Operations

Pollutant ~~or~~ Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0129	0.0071
Lead (T)	0.0353	0.0174
Zinc (T)	0.0656	0.025

SUBCATEGORY C - PSNS (cont.)

(2) Casting Quench Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0138	0.0076
Lead (T)	0.0376	0.0185
Zinc (T)	0.0699	0.0266
TTO	0.0257	0.00838
Oil & Grease[1]	1.43	0.476

(3) Dust Collection Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	0.218	0.12
Lead (T)	0.593	0.293
Zinc (T)	1.1	0.421
Total Phenols	0.656	0.225
TTO	2.04	0.664
Oil & Grease[1]	22.5	7.51

(4) Grinding Scrubber Operations

There shall be no discharge of process wastewater pollutants to a publicly owned treatment works (POTW).

(5) Investment Casting

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	3.19	1.76
Lead (T)	8.7	4.3
Zinc (T)	16.2	6.17
TTO	13.2	4.3
Oil & Grease[1]	330	110

SUBCATEGORY C - PSNS (cont.)

(6) Melting Furnace Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	1.02	0.561
Lead (T)	2.77	1.37
Zinc (T)	5.15	1.96
Total Phenols	3.01	1.05
TTO	8.34	2.73
Oil & Grease[1]	105	35

(7) Mold Cooling Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0428	0.0236
Lead (T)	0.117	0.0576
Zinc (T)	0.217	0.0827
TTO	0.0797	0.026
Oil & Grease[1]	4.43	1.48

(8) Slag Quench Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0527	0.0291
Lead (T)	0.144	0.0709
Zinc (T)	0.267	0.102
TTO	0.0257	0.00838
Oil & Grease[1]	5.46	1.82

SUBCATEGORY C - PSNS (cont.)

(9) Wet Sand Reclamation

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of sand reclaimed	
Copper (T)	0.217	0.12
Lead (T)	0.59	0.291
Zinc (T)	1.1	0.418
Total Phenols	0.642	0.224
TTO	1.18	0.386
Oil & Grease[1]	22.4	7.47

[1]Oil and Grease is an alternative monitoring parameter for TTO.

SUBCATEGORY D - ZINC CASTING

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

(a) Casting Quench Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
kg/1,000 kkg (pounds per million pounds) of metal poured		
Copper (T)	0.0344	0.0187
Lead (T)	0.0237	0.0116
Zinc (T)	0.0339	0.0129
TTO	0.093	0.0304
Oil & Grease[1]	1.34	0.446

(b) Die Casting Operations

Pollutant ~~or~~ Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0066	0.0036
Lead (T)	0.0046	0.0022
Zinc (T)	0.0066	0.0025
Total Phenols	0.0074	0.0026
TTO	0.0196	0.0064
Oil & Grease[1]	0.259	0.0864

SUBCATEGORY D - PSES (cont.)

(c) Melting Furnace Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	1.56	0.852
Lead (T)	1.07	0.527
Zinc (T)	1.54	0.588
Total Phenols	1.74	0.608
TTO	3.95	1.29
Oil & Grease[1]	60.8	20.3

(d) Mold Cooling Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.304	0.166
Lead (T)	0.209	0.103
Zinc (T)	0.3	0.114
TTO	0.821	0.268
Oil & Grease[1]	11.8	3.94

[1]Oil and Grease is an alternative monitoring parameter for TTO.

SUBCATEGORY D - ZINC CASTING (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

(a) Casting Quench Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0344	0.0187
Lead (T)	0.0237	0.0116
Zinc (T)	0.0339	0.0129
TTO	0.093	0.0304
Oil & Grease[1]	1.34	0.446

(b) Die Casting Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0066	0.0036
Lead (T)	0.0046	0.0022
Zinc (T)	0.0066	0.0025
Total Phenols	0.0074	0.0026
TTO	0.0196	0.0064
Oil & Grease[1]	0.259	0.0864

(c) Melting Furnace Scrubber Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/62.3 million Sm^3 (pounds per billion SCF) of air scrubbed	
Copper (T)	1.56	0.852
Lead (T)	1.07	0.527
Zinc (T)	1.54	0.588
Total Phenols	1.74	0.608
TTO	3.95	1.29
Oil & Grease[1]	60.8	20.3

(d) Mold Cooling Operations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.304	0.166
Lead (T)	0.209	0.103
Zinc (T)	0.3	0.114
TTO	0.821	0.268
Oil & Grease[1]	11.8	3.94

[1]Oil and Grease is an alternative monitoring parameter for TTO.

40 CFR PART 471

NONFERROUS METALS FORMING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms subject to the Nonferrous Metals Forming and Metal Powders Categorical Standards as well as Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Nonferrous Metals Forming and Metal Powders standards were established by the Environmental Protection Agency under Part 471 of Title 40 of the Code of Federal Regulations (40 CFR 471). This summary is not intended to substitute the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	March 5, 1984	Vol. 49, p. 8112
Final Rule	August 23, 1985	Vol. 50, p. 34242
Correction	January 22, 1986	Vol. 51, p. 2884
Proposed Regulation Amendments	June 9, 1988	Vol. 53, p. 21774

APPLICABLE DATES

Effective Date: October 7, 1985
Baseline Monitoring Report (BMR) Due Date: April 5, 1986
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): August 23, 1988
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Nonferrous Metals Forming Category is divided into 10 subcategories (Subparts A through J) based on the type of metals formed. Subparts A through I address nonferrous metals. Subpart J, the Metal Powders Subcategory, has been included in this category even though it applies to ferrous metals. The 10 subcategories are listed below:

Subpart A - Lead/Tin/Bismuth Forming
Subpart B - Magnesium Forming
Subpart C - Nickel/Cobalt Forming
Subpart D - Precious Metals Forming
Subpart E - Refractory Metals Forming
Subpart F - Titanium Forming
Subpart G - Uranium Forming

Subpart H - Zinc Forming
Subpart I - Zirconium/Hafnium Forming
Subpart J - Metal Powers

Industries in the Nonferrous Metals Forming category are generally included under Standard Industrial Classification (SIC) codes 3356, 3357, 3463, and 3497.

REGULATED POLLUTANTS

The 12 pollutants regulated under the different subcategories of the Nonferrous Metals Forming Category are ammonia, antimony, cadmium, chromium, copper, cyanide, fluoride, lead, molybdenum, nickel, silver, and zinc. Not all of these pollutants are controlled in each subcategory. Limits are established only where the pollutants appear in treatable concentrations in the wastewater.

PRETREATMENT STANDARDS FOR EXISTING SOURCES AND NEW SOURCES (PSES and PSNS)

PSES and PSNS for all 10 subcategories (Subparts A-J) of the Nonferrous Metals Forming category are summarized in the following tables. The pollutants that are regulated vary from one subcategory to another. The term "ND" indicates the standard specifies that there shall be no discharge of process wastewater pollutants. All limits are mass-based and are in units of mg/off-kg, or pounds per million off-pounds of metal handled for each process. The "Max" standard represents the maximum pollutant level for any one day. The "Ave" standard represents the maximum pollutant level for a monthly average of all samples taken.

In addition to compliance with the categorical pretreatment standards, regulations specify that all existing and new sources in the Nonferrous Metals Forming category which introduce pollutants into a POTW must comply with 40 CFR Part 403 General Pretreatment Standards.

Nonferrous Metals Forming (Cont.)

SUBPART A - LEAD/TIN/BISMUTH FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR EXISTING SOURCES

	Pollutant Limits in mg/off-kg (pounds/million off-pounds) of lead-tin-bismuth*				
	Antimony		Lead		*Pollutant Unit Basis
Process	Max	Avg.	Max	Avg.	
(a) Rolling Spent Emulsions	0.067	0.030	0.010	0.005	rolled with emulsions
(b) Rolling Spent Soap Solutions	0.120	0.055	0.018	0.009	rolled with soap solutions
(c) Drawing Spent Neat Oils	ND		ND		
(d) Drawing Spent Emulsions	0.076	0.034	0.011	0.005	drawn with emulsions
(e) Drawing Spent Soap Solutions	0.022	0.010	0.003	0.002	drawn with soap solutions
(f) Extrusion Press and Solution Heat Treatment Contact Cooling Water	0.414	0.185	0.061	0.029	heat treated
(g) Extrusion Press Hydraulic Fluid Leakage	0.158	0.071	0.023	0.011	extruded
(h) Continuous Strip Casting Contact Cooling Water	0.003	0.001	0.0004	0.0002	cast by continuous strip method
(i) Semi-Continuous Ingot Casting Contact Cooling Water	0.009	0.004	0.001	0.0006	ingot case by semi-continuous strip method
(j) Shot Casting Contact Cooling Water	0.107	0.048	0.016	0.008	shot cast
(k) Shot-Forming Wet Air Pollution Control Scrubber Blowdown	0.169	0.076	0.025	0.012	shot formed
(l) Alkaline Cleaning Spent Baths	0.345	0.154	0.051	0.024	alkaline cleaned
(m) Alkaline Cleaning Rinse	0.678	0.302	0.099	0.047	alkaline cleaned
(n) Swaging Spent Emulsions	0.005	0.002	0.0008	0.0004	swaged with emulsion
(o) Degreasing Spent Solvents	ND		ND		

ND = No Discharge of Process Wastewater Pollutants

Nonferrous Metals Forming (Cont.)

SUBPART A - LEAD/TIN/BISMUTH FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR NEW SOURCES

	Pollutant Limits in mg/off-kg (pounds/million off-pounds) of lead-tin-bismuth*				
	Antimony		Lead		*Pollutant Unit Basis
Process	Max	Avg.	Max	Avg.	
(a) Rolling Spent Emulsions	0.067	0.030	0.010	0.005	rolled with emulsions
(b) Rolling Spent Soap Solutions	0.120	0.055	0.018	0.009	rolled with soap solutions
(c) Drawing Spent Neat Oils	ND		ND		
(d) Drawing Spent Emulsions	0.076	0.034	0.011	0.005	drawn with emulsions
(e) Drawing Spent Soap Solutions	0.022	0.010	0.003	0.002	drawn with soap solutions
(f) Extrusion Press and Solution Heat Treatment Contact Cooling Water	0.414	0.185	0.061	0.029	heat treated
(g) Extrusion Press Hydraulic Fluid Leakage	0.158	0.071	0.023	0.011	extruded
(h) Continuous Strip Casting Contact Cooling Water	0.003	0.001	0.0004	0.0002	cast by continuous strip method
(i) Semi-Continuous Ingot Casting Contact Cooling Water	0.009	0.004	0.001	0.0006	ingot case by semi-continuous strip method
(j) Shot Casting Contact Cooling Water	0.107	0.048	0.016	0.008	shot cast
(k) Shot-Forming Wet Air Pollution Control Scrubber Blowdown	0.169	0.076	0.025	0.012	shot formed
(l) Alkaline Cleaning Spent Baths	0.345	0.154	0.051	0.024	alkaline cleaned
(m) Alkaline Cleaning Rinse	0.678	0.302	0.099	0.047	alkaline cleaned
(n) Swaging Spent Emulsions	0.005	0.002	0.0008	0.0004	swaged with emulsion
(o) Degreasing Spent Solvents	ND		ND		

ND = No Discharge of Process Wastewater Pollutants

SUBPART B - MAGNESIUM FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR EXISTING SOURCES

	Pollutant Limits in mg/off-kg (pounds/million off-pounds) of magnesium*								
	Chromium		Zinc		Ammonia		Fluoride		*Pollutant Unit Basis
Process	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Rolling Spent Emulsions	0.033	0.014	0.109	0.046	9.95	4.37	4.44	1.97	rolled with emulsions
(b) Forging Spent Lubricants	ND		ND		ND		ND		
(c) Forging Contact Cooling Water	0.127	0.052	0.422	0.177	38.5	17.0	17.2	7.63	(forged magnesium) cooled with water
(d) Forging Equipment Cleaning Wastewater	0.002	0.0007	0.006	0.003	0.532	0.234	0.238	0.106	forged
(e) Direct Chill Casting Contact Cooling Water	1.74	0.711	5.77	2.41	527	232	235	105	cast with direct chill method
(f) Surface Treatment Spent Baths	0.205	0.084	0.681	0.285	62.1	27.3	27.8	12.3	surface treated
(g) Surface Treatment Baths	0.832	0.340	2.76	1.16	252	111	113	49.9	surface treated
(h) Sawing/Grinding Spent Emulsions	0.009	0.004	0.029	0.012	2.60	1.15	1.16	0.515	sawed or ground
(i) Degreasing Spent Solvent	ND		ND		ND		ND		
(j) Wet Air Pollution Control Scrubber Blowdown	0.273	0.112	0.904	0.378	8.25	36.3	36.9	16.4	sanded and repaired or forged

ND = No Discharge of Process Wastewater Pollutants

SUBPART B - MAGNESIUM FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant Limits in mg/off-kg (pounds/million off-pounds) of magnesium*

Process	Chromium Max	Chromium Avg.	Zinc Max	Zinc Avg.	Ammonia Max	Ammonia Avg.	Fluoride Max	Fluoride Avg.	*Pollutant Unit Basis
(a) Rolling Spent Emulsions	0.033	0.014	0.109	0.046	9.95	4.37	4.44	1.97	rolled with emulsions
(b) Forging Spent Lubricants	ND		ND		ND		ND		
(c) Forging Contact Cooling Water	0.127	0.052	0.422	0.177	38.5	17.0	17.2	7.63	(forged magnesium) cooled with water
(d) Forging Equipment Cleaning Wastewater	0.002	0.0007	0.006	0.003	0.532	0.234	0.238	0.106	forged
(e) Direct Chill Casting Contact Cooling Water	1.74	0.711	5.77	2.41	527	232	235	105	cast with direct chill method
(f) Surface Treatment Spent Baths	0.205	0.084	0.681	0.285	62.1	27.3	27.8	12.3	surface treated
(g) Surface Treatment Baths	0.832	0.340	2.76	1.16	252	111	113	49.9	surface treated
(h) Sawing/Grinding Spent Emulsions	0.009	0.004	0.029	0.012	2.60	1.15	1.16	0.515	sawed or ground
(i) Degreasing Spent Solvent	ND		ND		ND		ND		
(j) Wet Air Pollution Control Scrubber Blowdown	0.273	0.112	0.904	0.378	8.25	36.3	36.9	16.4	sanded and repaired or forged

ND = No Discharge of Process Wastewater Pollutants

SUBPART C - NICKEL/COBALT FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR EXISTING SOURCES

	Pollutant Limits in mg/off-kg (pounds/million off-pounds) of nickel-cobalt*						
	Chromium		Nickel		Fluoride		*Pollutant Unit Basis
Process	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Rolling Spent Neat Oils	ND		ND		ND		
(b) Rolling Spent Emulsions	0.063	0.026	0.094	0.063	10.1	4.49	rolled with emulsions
(c) Rolling Contact Cooling Water	0.028	0.011	0.042	0.028	4.49	1.99	rolled with water
(d) Tube Reducing Spent Lubricants	ND		ND		ND		
(e) Drawing Spent Neat Oils	ND		ND		ND		
(f) Drawing Spent Emulsions	0.036	0.014	0.053	0.036	5.68	2.52	drawn with emulsions
(g) Extrusion Spent Lubricants	ND		ND		ND		
(h) Extrusion Press and Solution Heat Treatment Contact Cooling Water	0.031	0.013	0.046	0.031	4.95	2.20	heat treated
(i) Extrusion Press Hydraulic Fluid Leakage	0.086	0.034	0.128	0.086	13.8	6.13	extruded
(j) Forging Equipment Cleaning Wastewater	0.002	0.0006	0.002	0.002	0.238	0.106	forged
(k) Forging Contact Cooling Water	0.018	0.007	0.026	0.018	2.82	1.25	(forged nickel-cobalt) cooled with water
(l) Forging Press Hydraulic Fluid Leakage	0.069	0.028	0.103	0.069	11.2	4.94	forged
(m) Forging Spent Lubricants	ND		ND		ND		
(n) Stationary Casting Contact Cooling Water	0.448	0.182	0.666	0.448	72.0	32.0	cast with stationary methods methods
(o) Vacuum Melting Steam Condensate	ND		ND		ND		
(p) Metal Powder Production Atomization Wastewater	0.970	0.393	1.44	0.970	156	69.2	metal powder atomized
(q) Annealing Solution Heat Treatment Contact Cooling Water	ND		ND		ND		
(r) Wet Air Pollution Control Scrubber Blowdown	0.300	0.122	0.446	0.300	48.2	21.4	formed
(s) Surface Treatment Spent Baths	0.346	0.141	0.514	0.346	55.7	24.7	surface treated
(t) Surface Treatment Rinse	0.873	0.354	1.30	0.873	141	62.3	surface treated
(u) Alkaline Cleaning Spent Baths	0.013	0.005	0.019	0.013	2.02	0.895	alkaline cleaned
(v) Alkaline Cleaning Rinse	0.086	0.035	0.128	0.086	13.9	6.15	alkaline cleaned
(w) Molten Salt Rinse	0.312	0.127	0.464	0.312	50.2	22.3	treated with molten salt
(x) Ammonia Rinse	0.006	0.002	0.008	0.006	0.881	0.391	treated with ammonia solution
(y) Sawing/Grinding Spent Emulsions	0.015	0.006	0.022	0.015	2.35	1.04	sawed or ground with emulsions
(z) Sawing/Grinding Rinse	0.067	0.027	0.100	0.067	10.8	4.78	(sawed or ground nickel-cobalt) rinsed
(aa) Steam Cleaning Condensate	0.011	0.005	0.017	0.011	1.79	0.795	steam cleaned
(bb) Hydrostatic Tube Testing and Ultrasonic Testing Wastewater	ND		ND		ND		
(cc) Degreasing Spent Solvents	ND		ND		ND		
(dd) Dye Penetrant Testing Wastewater	0.079	0.032	0.117	0.079	--	--	tested with dye penetrant methods
(ee) Electrocoating Rinse	1.25	0.506	1.86	1.25	201	89.0	electrocoated
(ff) Miscellaneous Wastewater	0.091	0.037	0.136	0.091	14.7	6.50	formed

ND = No Discharge of Process Wastewater Pollutants

SUBPART C - NICKEL/COBALT FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR NEW SOURCES

	Pollutant Limits in mg/off-kg (pounds/million off-pounds) of nickel-cobalt*						
	Chromium		Nickel		Fluoride		*Pollutant Unit Basis
Process	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Rolling Spent Neat Oils	ND		ND		ND		
(b) Rolling Spent Emulsions	0.063	0.026	0.094	0.063	10.1	4.49	rolled with emulsions
(c) Rolling Contact Cooling Water	0.028	0.011	0.042	0.028	4.49	1.99	rolled with water
(d) Tube Reducing Spent Lubricants	ND		ND		ND		
(e) Drawing Spent Neat Oils	ND		ND		ND		
(f) Drawing Spent Emulsions	0.036	0.014	0.053	0.036	5.68	2.52	drawn with emulsions
(g) Extrusion Spent Lubricants	ND		ND		ND		
(h) Extrusion Press and Solution Heat Treatment Contact Cooling Water	0.031	0.013	0.046	0.031	4.95	2.20	heat treated
(i) Extrusion Press Hydraulic Fluid Leakage	0.086	0.034	0.128	0.086	13.8	6.13	extruded
(j) Forging Equipment Cleaning Wastewater	0.002	0.0006	0.002	0.002	0.238	0.106	forged
(k) Forging Contact Cooling Water	0.018	0.007	0.026	0.018	2.82	1.25	(forged nickel-cobalt) cooled with water
(l) Forging Press Hydraulic Fluid Leakage	0.069	0.028	0.103	0.069	11.2	4.94	forged
(m) Forging Spent Lubricants	ND		ND		ND		
(n) Stationary Casting Contact Cooling Water	0.448	0.182	0.666	0.448	72.0	32.0	cast with stationary methods methods
(o) Vacuum Melting Steam Condensate	ND		ND		ND		
(p) Metal Powder Production Atomization Wastewater	0.970	0.393	1.44	0.970	156	69.2	metal powder atomized
(q) Annealing Solution Heat Treatment Contact Cooling Water	ND		ND		ND		
(r) Wet Air Pollution Control Scrubber Blowdown	0.300	0.122	0.446	0.300	48.2	21.4	formed
(s) Surface Treatment Spent Baths	0.346	0.141	0.514	0.346	55.7	24.7	surface treated
(t) Surface Treatment Rinse	0.873	0.354	1.30	0.873	141	62.3	surface treated
(u) Alkaline Cleaning Spent Baths	0.013	0.005	0.019	0.013	2.02	0.895	alkaline cleaned
(v) Alkaline Cleaning Rinse	0.086	0.035	0.128	0.086	13.9	6.15	alkaline cleaned
(w) Molten Salt Rinse	0.312	0.127	0.464	0.312	50.2	22.3	treated with molten salt
(x) Ammonia Rinse	0.006	0.002	0.008	0.006	0.881	0.391	treated with ammonia solution
(y) Sawing/Grinding Spent Emulsions	0.015	0.006	0.022	0.015	2.35	1.04	sawed or ground with emulsions
(z) Sawing/Grinding Rinse	0.067	0.027	0.100	0.067	10.8	4.78	(sawed or ground nickel-cobalt) rinsed
(aa) Steam Cleaning Condensate	0.011	0.005	0.017	0.011	1.79	0.795	steam cleaned
(bb) Hydrostatic Tube Testing and Ultrasonic Testing Wastewater	ND		ND		ND		
(cc) Degreasing Spent Solvents	ND		ND		ND		
(dd) Dye Penetrant Testing Wastewater	0.079	0.032	0.117	0.079	--	--	tested with dye penetrant methods
(ee) Electrocoating Rinse	1.25	0.506	1.86	1.25	201	89.0	electrocoated
(ff) Miscellaneous Wastewater	0.091	0.037	0.136	0.091	14.7	6.50	formed

ND = No Discharge of Process Wastewater Pollutants

SUBPART D - PRECIOUS METALS FORMINGS SUBCATEGORY

PRETREATMENT STANDARDS FOR EXISTING SOURCES

Pollutant Limits in mg/off-kg (pounds/million off-pounds) of precious metals*

Process	Cadmium		Copper		Cyanide		Silver		*Pollutant Unit Basis
	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Rolling Spent Neat Oils		ND		ND		ND		ND	
(b) Rolling Spent Emulsions	0.026	0.012	0.147	0.077	0.023	0.010	0.032	0.013	rolled with emulsions
(c) Drawing Spent Neat Oils		ND		ND		ND		ND	
(d) Drawing Spent Emulsions	0.016	0.007	0.091	0.048	0.014	0.006	0.020	0.008	drawn with emulsions
(e) Drawing Spent Soap Solutions	0.001	0.0005	0.006	0.003	0.0009	0.0004	0.002	0.0006	drawn with soap solutions
(f) Metal Powder Production Atomization Wastewater	2.27	1.00	12.7	6.68	1.94	0.802	2.74	1.14	powder wet atomized
(g) Heat Treatment Contact Cooling Water	0.142	0.063	0.793	0.417	0.121	0.050	0.171	0.071	heat treated
(h) Semi-Continuous and Continuous Casting Contact Cooling Water	0.350	0.155	1.96	1.03	0.299	0.124	0.423	0.175	cast by semi-continuous or continuous method
(i) Stationary Casting Contact Cooling Water		ND		ND		ND		ND	
(j) Direct Chill Casting Contact Cooling Water	0.367	0.162	2.05	1.08	0.313	0.130	0.443	0.184	cast by direct chill method
(k) Shot Casting Contact Cooling Water	0.125	0.055	0.698	0.367	0.107	0.044	0.151	0.063	shot cast
(l) Wet Air Pollution Control Scrubber Blowdown		ND		ND		ND		ND	
(m) Pressure Bonding Contact Cooling Water	0.029	0.013	0.159	0.084	0.024	0.010	0.034	0.014	(precious metals) and base metal pressure bonded
(n) Surface Treatment Spent Baths	0.033	0.015	0.183	0.097	0.028	0.012	0.040	0.017	surface treated
(o) Surface Treatment Rinse	0.210	0.093	1.17	0.616	0.179	0.074	0.253	0.105	surface treated
(p) Alkaline Cleaning Spent Baths	0.021	0.009	0.114	0.060	0.018	0.007	0.025	0.010	alkaline cleaned
(q) Alkaline Cleaning Rinse	0.381	0.168	2.13	1.12	0.325	0.135	0.459	0.191	alkaline cleaned
(r) Alkaline Cleaning Prebonding Wastewater	0.400	0.174	2.21	1.16	0.337	0.139	0.476	0.197	(precious metals) and base metal cleaned prior to bonding
(s) Tumbling or Burnishing Wastewater	0.412	0.182	2.300	1.21	0.351	0.145	0.496	0.206	tumbled or burnished
(t) Sawing/Grinding Spent Neat Oils		ND		ND		ND		ND	
(u) Sawing/Grinding Spent Emulsions	0.032	0.014	0.178	0.094	0.027	0.011	0.038	0.016	sawed or ground with emulsions
(v) Degreasing Spent Solvents		ND		ND		ND		ND	

ND = No Discharge of Process Wastewater Pollutants

SUBPART D - PRECIOUS METALS FORMINGS SUBCATEGORY

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant Limits in mg/off-kg (pounds/million off-pounds) of precious metals*

Process	Cadmium		Copper		Cyanide		Silver		*Pollutant Unit Basis
	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Rolling Spent Neat Oils		ND		ND		ND		ND	
(b) Rolling Spent Emulsions	0.026	0.012	0.147	0.077	0.023	0.010	0.032	0.013	rolled with emulsions
(c) Drawing Spent Neat Oils		ND		ND		ND		ND	
(d) Drawing Spent Emulsions	0.016	0.007	0.091	0.048	0.014	0.006	0.020	0.008	drawn with emulsions
(e) Drawing Spent Soap Solutions	0.001	0.0005	0.006	0.003	0.0009	0.0004	0.002	0.0006	drawn with soap solutions
(f) Metal Powder Production Atomization Wastewater	2.27	1.00	12.7	6.68	1.94	0.802	2.74	1.14	powder wet atomized
(g) Heat Treatment Contact Cooling Water	0.142	0.063	0.793	0.417	0.121	0.050	0.171	0.071	heat treated
(h) Semi-Continuous and Continuous Casting Contact Cooling Water	0.350	0.155	1.96	1.03	0.299	0.124	0.423	0.175	cast by semi-continuous or continuous method
(i) Stationary Casting Contact Cooling Water		ND		ND		ND		ND	
(j) Direct Chill Casting Contact Cooling Water	0.367	0.162	2.05	1.08	0.313	0.130	0.443	0.184	cast by direct chill method
(k) Shot Casting Contact Cooling Water	0.125	0.055	0.698	0.367	0.107	0.044	0.151	0.063	shot cast
(l) Wet Air Pollution Control Scrubber Blowdown		ND		ND		ND		ND	
(m) Pressure Bonding Contact Cooling Water	0.029	0.013	0.159	0.084	0.024	0.010	0.034	0.014	(precious metals) and base metal pressure bonded
(n) Surface Treatment Spent Baths	0.033	0.015	0.183	0.097	0.028	0.012	0.040	0.017	surface treated
(o) Surface Treatment Rinse	0.210	0.093	1.17	0.616	0.179	0.074	0.253	0.105	surface treated
(p) Alkaline Cleaning Spent Baths	0.021	0.009	0.114	0.060	0.018	0.007	0.025	0.010	alkaline cleaned
(q) Alkaline Cleaning Rinse	0.381	0.168	2.13	1.12	0.325	0.135	0.459	0.191	alkaline cleaned
(r) Alkaline Cleaning Prebonding Wastewater	0.400	0.174	2.21	1.16	0.337	0.139	0.476	0.197	(precious metals) and base metal cleaned prior to bonding
(s) Tumbling or Burnishing Wastewater	0.412	0.182	2.300	1.21	0.351	0.145	0.496	0.206	tumbled or burnished
(t) Sawing/Grinding Spent Neat Oils		ND		ND		ND		ND	
(u) Sawing/Grinding Spent Emulsions	0.032	0.014	0.178	0.094	0.027	0.011	0.038	0.016	sawed or ground with emulsions
(v) Degreasing Spent Solvents		ND		ND		ND		ND	

ND = No Discharge of Process Wastewater Pollutants

SUBPART E - REFRACTORY METALS FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR EXISTING SOURCES

		Pollutant Limits in mg/off-kg (pounds/million off-pounds) of refractory metals*								
		Copper		Nickel		Fluoride		Molybdenum		*Pollutant Unit Basis
	Process	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	
(a)	Rolling Spent Neat Oils and Graphite-Based Lubricants	ND		ND		ND		ND		
(b)	Rolling Spent Emulsions	0.815	0.429	0.824	0.545	25.5	11.3	2.84	1.47	rolled with emulsions
(c)	Drawing Spent Lubricants	ND		ND		ND		ND		
(d)	Extrusion Spent Lubricants	ND		ND		ND		ND		
(e)	Extrusion Press Hydraulic Fluid Leakage	2.26	1.19	2.29	1.51	70.8	31.4	7.87	4.07	extruded
(f)	Forging Spent Lubricants	ND		ND		ND		ND		
(g)	Forging Contact Cooling Water	0.062	0.033	0.620	0.410	19.2	8.53	2.14	1.11	(forged refractory metals) cooled with water
(h)	Equipment Cleaning Wastewater	0.259	0.136	0.261	0.173	8.09	3.59	0.899	0.465	formed
(i)	Metal Powder Production Wastewater	0.534	0.281	0.540	0.357	16.7	7.42	1.86	0.961	powder produced
(j)	Metal Powder Production Floor Wash Wastewater	ND		ND		ND		ND		
(k)	Metal Powder Pressing Spent Lubricants	ND		ND		ND		ND		
(l)	Surface Treatment Spent Baths	0.739	0.389	0.747	0.494	23.2	10.3	2.57	1.33	surface treated
(m)	Surface Treatment Rinse	23.0	12.1	23.3	15.4	720	320	80.0	41.4	surface treated
(n)	Alkaline Cleaning Spent Baths	0.635	0.334	0.642	0.424	19.9	8.82	2.21	1.14	alkaline cleaned
(o)	Alkaline Cleaning Rinse	15.5	8.16	15.7	10.4	486.0	216.0	54.0	27.9	alkaline cleaned
(p)	Molten Salt Rinse	1.20	0.633	1.22	0.804	37.7	16.7	4.19	2.17	treated with molten salt
(q)	Tumbling/Burnishing Wastewater	2.38	1.25	2.40	1.59	74.4	33.0	8.27	4.28	tumbled or burnished
(r)	Sawing/Grinding Spent Neat Oils	ND		ND		ND		ND		
(s)	Sawing/Grinding Spent Emulsions	0.565	0.297	0.570	0.377	17.7	7.84	1.97	1.02	sawed or ground with emulsions
(t)	Sawing/Grinding Contact Cooling Water	4.62	2.43	4.67	3.09	145.0	64.2	16.1	8.31	sawed or ground with contact cooling water
(u)	Sawing/Grinding Rinse	0.026	0.014	0.026	0.017	0.804	0.357	0.089	0.046	(sawed or ground refractory metals) rinsed
(v)	Wet Air Pollution Control Blowdown	1.50	0.787	1.51	1.00	46.9	20.8	5.20	2.69	sawed, ground, surface coated or surface treated
(w)	Miscellaneous Wastewater Sources	0.656	0.345	0.663	0.438	20.6	9.11	2.28	1.18	formed
(x)	Dye Penetrant Testing Wastewater	0.148	0.078	0.149	0.099	4.62	2.05	0.513	0.266	product tested
(y)	Degreasing Spent Solvents	ND		ND		ND		ND		

ND - No Discharge of Process Wastewater Pollutants

SUBPART E - REFRACTORY METALS FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant Limits in mg/off-kg (pounds/million off-pounds) of refractory metals*

	Copper		Nickel		Fluoride		Molybdenum		*Pollutant Unit Basis
Process	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Rolling Spent Neat Oils and Graphite-Based Lubricants	ND		ND		ND		ND		
(b) Rolling Spent Emulsions	0.815	0.429	0.824	0.545	25.5	11.3	2.84	1.47	rolled with emulsions
(c) Drawing Spent Lubricants	ND		ND		ND		ND		
(d) Extrusion Spent Lubricants	ND		ND		ND		ND		
(e) Extrusion Press Hydraulic Fluid Leakage	2.26	1.19	2.29	1.51	70.8	31.4	7.87	4.07	extruded
(f) Forging Spent Lubricants	ND		ND		ND		ND		
(g) Forging Contact Cooling Water	0.062	0.033	0.620	0.410	19.2	8.53	2.14	1.11	(forged refractory metals) cooled with water
(h) Equipment Cleaning Wastewater	0.259	0.136	0.261	0.173	8.09	3.59	0.899	0.465	formed
(i) Metal Powder Production Wastewater	0.534	0.281	0.540	0.357	16.7	7.42	1.86	0.961	powder produced
(j) Metal Powder Production Floor Wash Wastewater	ND		ND		ND		ND		
(k) Metal Powder Pressing Spent Lubricants	ND		ND		ND		ND		
(l) Surface Treatment Spent Baths	0.739	0.389	0.747	0.494	23.2	10.3	2.57	1.33	surface treated
(m) Surface Treatment Rinse	23.0	12.1	23.3	15.4	720	320	80.0	41.4	surface treated
(n) Alkaline Cleaning Spent Baths	0.635	0.334	0.642	0.424	19.9	8.82	2.21	1.14	alkaline cleaned
(o) Alkaline Cleaning Rinse	15.5	8.16	15.7	10.4	486.0	216.0	54.0	27.9	alkaline cleaned
(p) Molten Salt Rinse	1.20	0.633	1.22	0.804	37.7	16.7	4.19	2.17	treated with molten salt
(q) Tumbling/Burnishing Wastewater	2.38	1.25	2.40	1.59	74.4	33.0	8.27	4.28	tumbled or burnished
(r) Sawing/Grinding Spent Neat Oils	ND		ND		ND		ND		
(s) Sawing/Grinding Spent Emulsions	0.565	0.297	0.570	0.377	17.7	7.84	1.97	1.02	sawed or ground with emulsions
(t) Sawing/Grinding Contact Cooling Water	4.62	2.43	4.67	3.09	145.0	64.2	16.1	8.31	sawed or ground with contact cooling water
(u) Sawing/Grinding Rinse	0.026	0.014	0.026	0.017	0.804	0.357	0.089	0.046	(sawed or ground refractory metals) rinsed
(v) Wet Air Pollution Control Blowdown	1.50	0.787	1.51	1.00	46.9	20.8	5.20	2.69	sawed, ground, surface coated or surface treated
(w) Miscellaneous Wastewater Sources	0.656	0.345	0.663	0.438	20.6	9.11	2.28	1.18	formed
(x) Dye Penetrant Testing Wastewater	0.148	0.078	0.149	0.099	4.62	2.05	0.513	0.266	product tested
(y) Degreasing Spent Solvents	ND		ND		ND		ND		

ND - No Discharge of Process Wastewater Pollutants

SUBPART F - TITANIUM FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR EXISTING SOURCES

	Pollutant Limits in mg/off-kg (pounds/million off-pounds) of titanium*										
	Cyanide		Lead		Zinc		Ammonia		Fluoride		*Pollutant Unit Basis
Process	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Rolling Spent Neat Oils	ND		ND		ND		ND		ND		
(b) Rolling Contact Cooling Water	0.142	0.059	0.205	0.098	0.713	0.298	65.1	28.6	29.1	12.9	rolled with contact cooling water
(c) Drawing Spent Neat Oils	ND		ND		ND		ND		ND		
(d) Extrusion Spent Neat Oils	ND		ND		ND		ND		ND		
(e) Extrusion Spent Emulsions	0.021	0.009	0.030	0.015	0.105	0.044	9.59	4.22	4.28	1.90	extruded
(f) Extrusion Press Hydraulic Fluid Leakage	0.052	0.022	0.75	0.036	0.260	0.109	23.7	10.5	10.6	4.70	extruded
(g) Forging Spent Lubricants	ND		ND		ND		ND		ND		
(h) Forging Contact Cooling Water	0.029	0.012	0.042	0.020	0.146	0.061	13.3	5.86	5.95	2.64	(forged titanium) cool with water
(i) Forging Equipment Cleaning Wastewater	0.012	0.005	0.017	0.008	0.059	0.025	5.33	2.35	2.38	1.06	forged
(j) Forging Press Hydraulic Fluid Leakage	0.293	0.121	0.424	0.202	1.48	0.616	135	59.2	60.1	26.7	forged
(k) Tube Reducing Spent Lubricants	ND		ND		ND		ND		ND		
(l) Heat Treatment Contact Cooling Water	ND		ND		ND		ND		ND		
(m) Surface Treatment Spent Baths	0.061	0.025	0.088	0.042	0.304	0.127	27.7	12.2	12.4	5.49	surface treated
(n) Surface Treatment Rinse	0.847	0.351	1.23	0.584	4.27	1.78	389	171	174	77.1	surface treated
(o) Wet Air Pollution Control Scrubber Blowdown	0.062	0.026	0.090	0.043	0.313	0.131	28.5	12.6	12.8	5.65	surface treated or forged
(p) Alkaline Cleaning Spent Baths	0.070	0.029	0.101	0.048	0.351	0.147	32.0	14.1	14.3	6.34	alkaline cleaned
(q) Alkaline Cleaning Rinse	0.080	0.033	0.116	0.055	0.403	0.169	36.8	16.2	16.4	7.29	alkaline cleaned
(r) Molten Salt Rinse	0.277	0.115	0.401	0.191	1.40	0.583	128	56.0	56.8	25.2	treated with molten sal
(s) Tumbling Wastewater	0.023	0.010	0.033	0.016	0.116	0.048	10.6	4.63	4.70	2.09	tumbled
(t) Sawing/Grinding Spent Neat Oils	ND		ND		ND		ND		ND		
(u) Sawing/Grinding Spent Emulsions	0.053	0.022	0.077	0.037	0.267	0.112	24.4	10.7	10.9	4.83	sawed or ground with emulsions
(v) Sawing/Grinding Contact Cooling Water	0.138	0.057	0.200	0.095	0.695	0.291	63.5	27.9	28.3	12.6	sawed or ground with contact cooling water
(w) Dye Penetrant Testing Wastewater	0.325	0.135	0.471	0.224	1.64	0.638	149	65.7	66.7	29.6	treated using dye penetrant method
(x) Miscellaneous Wastewater Sources	0.010	0.004	0.014	0.007	0.048	0.020	4.32	1.90	1.93	0.858	formed
(y) Degreasing Spent Solvents	ND		ND		ND		ND		ND		

ND = No Discharge of Process Wastewater Pollutants

SUBPART F - TITANIUM FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant Limits in mg/off-kg (pounds/million off-pounds) of titanium*

Process	Cyanide Max	Cyanide Avg.	Lead Max	Lead Avg.	Zinc Max	Zinc Avg.	Ammonia Max	Ammonia Avg.	Fluoride Max	Fluoride Avg.	*Pollutant Unit Basis
(a) Rolling Spent Neat Oils	ND		ND		ND		ND		ND		
(b) Rolling Contact Cooling Water	0.142	0.059	0.205	0.098	0.713	0.298	65.1	28.6	29.1	12.9	rolled with contact cooling water
(c) Drawing Spent Neat Oils	ND		ND		ND		ND		ND		
(d) Extrusion Spent Neat Oils	ND		ND		ND		ND		ND		
(e) Extrusion Spent Emulsions	0.021	0.009	0.030	0.015	0.105	0.044	9.59	4.22	4.28	1.90	extruded
(f) Extrusion Press Hydraulic Fluid Leakage	0.052	0.022	0.75	0.036	0.260	0.109	23.7	10.5	10.6	4.70	extruded
(g) Forging Spent Lubricants	ND		ND		ND		ND		ND		
(h) Forging Contact Cooling Water	0.029	0.012	0.042	0.020	0.146	0.061	13.3	5.86	5.95	2.64	(forged titanium) cooled with water
(i) Forging Equipment Cleaning Wastewater	0.012	0.005	0.017	0.008	0.059	0.025	5.33	2.35	2.38	1.06	forged
(j) Forging Press Hydraulic Fluid Leakage	0.293	0.121	0.424	0.202	1.48	0.616	135	59.2	60.1	26.7	forged
(k) Tube Reducing Spent Lubricants	ND		ND		ND		ND		ND		
(l) Heat Treatment Contact Cooling Water	ND		ND		ND		ND		ND		
(m) Surface Treatment Spent Baths	0.061	0.025	0.088	0.042	0.304	0.127	27.7	12.2	12.4	5.49	surface treated
(n) Surface Treatment Rinse	0.847	0.351	1.23	0.584	4.27	1.78	389	171	174	77.1	surface treated
(o) Wet Air Pollution Control Scrubber Blowdown	0.062	0.026	0.090	0.043	0.313	0.131	28.5	12.6	12.8	5.65	surface treated or forged
(p) Alkaline Cleaning Spent Baths	0.070	0.029	0.101	0.048	0.351	0.147	32.0	14.1	14.3	6.34	alkaline cleaned
(q) Alkaline Cleaning Rinse	0.080	0.033	0.116	0.055	0.403	0.169	36.8	16.2	16.4	7.29	alkaline cleaned
(r) Molten Salt Rinse	0.277	0.115	0.401	0.191	1.40	0.583	128	56.0	56.8	25.2	treated with molten salt
(s) Tumbling Wastewater	0.023	0.010	0.033	0.016	0.116	0.048	10.6	4.63	4.70	2.09	tumbled
(t) Sawing/Grinding Spent Neat Oils	ND		ND		ND		ND		ND		
(u) Sawing/Grinding Spent Emulsions	0.053	0.022	0.077	0.037	0.267	0.112	24.4	10.7	10.9	4.83	sawed or ground with emulsions
(v) Sawing/Grinding Contact Cooling Water	0.138	0.057	0.200	0.095	0.695	0.291	63.5	27.9	28.3	12.6	sawed or ground with contact cooling water
(w) Dye Penetrant Testing Wastewater	0.325	0.135	0.471	0.224	1.64	0.638	149	65.7	66.7	29.6	treated using dye penetrant method
(x) Miscellaneous Wastewater Sources	0.010	0.004	0.014	0.007	0.048	0.020	4.32	1.90	1.93	0.858	formed
(y) Degreasing Spent Solvents	ND		ND		ND		ND		ND		

ND = No Discharge of Process Wastewater Pollutants

SUBPART G - URANIUM FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR EXISTING SOURCES

RESERVED

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant Limits in mg/off-kg (pounds/million off-pounds) of uranium*

Process	Cadmium		Chromium		Copper		Lead		Nickel		Fluoride		Molybdenum		*Pollutant Unit Basis
	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Extrusion Spent Lubricants	ND		ND		ND		ND		ND		ND		ND		
(b) Extrusion Tool Contact Cooling Water	0.007	0.003	0.013	0.005	0.044	0.021	0.010	0.005	0.019	0.013	2.05	0.908	0.173	0.077	extruded
(c) Heat Treatment Contact Cooling Water	0.006	0.003	0.012	0.005	0.040	0.019	0.009	0.004	0.017	0.012	1.86	0.827	0.158	0.070	(extruded or forged uranium) heat treated
(d) Forging Spent Lubricants	ND		ND		ND		ND		ND		ND		ND		
(e) Surface Treatment Spent Baths	0.006	0.002	0.010	0.004	0.035	0.017	0.008	0.004	0.015	0.010	1.62	0.718	0.137	0.061	surface treated
(f) Surface Treatment Rinse	0.068	0.027	0.125	0.051	0.432	0.206	0.095	0.044	0.186	0.125	20.1	8.90	1.70	0.752	surface treated
(g) Wet Air Pollution Control Scrubber Blowdown	0.0007	0.0003	0.001	0.0005	0.005	0.002	0.001	0.0005	0.002	0.001	0.208	0.092	0.018	0.008	surface treated
(h) Sawing/Grinding Spent Emulsions	0.001	0.0005	0.002	0.0009	0.007	0.004	0.002	0.0008	0.003	0.002	0.338	0.150	0.029	0.013	sawed or ground with emulsions
(i) Sawing/Grinding Contact Cooling Water	0.033	0.013	0.061	0.025	0.211	0.101	0.046	0.022	0.091	0.061	9.82	4.36	0.830	0.368	sawed or ground with contact cooling water
(j) Sawing/Grinding Rinse	0.001	0.0004	0.002	0.0007	0.006	0.003	0.002	0.0006	0.003	0.002	0.277	0.123	0.024	0.011	(sawed or ground titanium) rinsed
(k) Area Cleaning Rinse	0.009	0.004	0.016	0.007	0.055	0.026	0.012	0.006	0.024	0.016	2.56	1.14	0.216	0.096	formed
(l) Drum Washwater	0.009	0.004	0.017	0.007	0.057	0.027	0.013	0.006	0.025	0.017	2.64	1.17	0.223	0.099	formed
(m) Laundry Washwater**	5.24	2.10	9.70	3.93	33.6	16.0	7.34	3.41	14.4	9.70	1,560	692.	132.	58.4	**mg/employee day
(n) Degreasing Spent Solvents	ND		ND		ND		ND		ND		ND		ND		

ND = No Discharge of Process Wastewater Pollutants
**Pollutant limits in units of mg/employee-day

SUBPART H - ZINC FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR EXISTING SOURCES

RESERVED

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant Limits in mg/off-kg (pounds/million off-pounds) of zinc*

Process	Chromium Max	Chromium Avg.	Copper Max	Copper Avg.	Cyanide Max	Cyanide Avg.	Zinc Max	Zinc Avg.	*Pollutant Unit Basis
(a) Rolling Spent Neat Oils	ND		ND		ND		ND		
(b) Rolling Spent Emulsions	0.0005	0.0002	0.002	0.0009	0.0003	0.0001	0.002	0.0006	rolled with emulsions
(c) Rolling Contact Cooling Water	0.020	0.008	0.069	0.033	0.011	0.004	0.055	0.023	rolled with contact cooling water
(d) Drawing Spent Emulsions	0.002	0.0009	0.008	0.004	0.001	0.0005	0.006	0.003	drawn with emulsions
(e) Direct Chill Casting Contact Cooling Water	0.019	0.008	0.065	0.031	0.010	0.004	0.052	0.021	cast by direct chill method
(f) Stationary Casting Contact Cooling Water	ND		ND		ND		ND		
(g) Heat Treatment Contact Cooling Water	0.029	0.012	0.098	0.047	0.016	0.006	0.078	0.032	heat treated
(h) Surface Treatment Spent Baths	0.033	0.014	0.114	0.054	0.018	0.007	0.091	0.038	surface treated
(i) Surface Treatment Rinse	0.133	0.054	0.459	0.219	0.072	0.029	0.365	0.151	surface treated
(j) Alkaline Cleaning Spent Baths	0.002	0.0006	0.005	0.002	0.0007	0.0003	0.004	0.002	alkaline cleaned
(k) Alkaline Cleaning Rinse	0.626	0.254	2.17	1.03	0.338	0.134	1.73	0.710	alkaline cleaned
(l) Sawing/Grinding Spent Emulsions	0.009	0.004	0.031	0.015	0.005	0.002	0.025	0.010	sawed or ground with emulsions
(m) Electrocoating Rinse	0.085	0.035	0.293	0.140	0.046	0.019	0.234	0.096	electrocoated
(n) Degreasing Spent Solvents	ND		ND		ND		ND		

ND = No Discharge of Process Wastewater Pollutants

Nonferrous Metals Forming (Cont.)

SUBPART I - ZIRCONIUM/HAFNIUM FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR EXISTING SOURCES

Pollutant Limits in mg/off-kg (pounds/million off-pounds) of zirconium-hafnium*

	Chromium		Cyanide		Nickel		Ammonia		Fluoride		*Pollutant Unit Basis
Process	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Rolling Spent Neat Oils		ND		ND		ND		ND		ND	
(b) Drawing Spent Lubricants		ND		ND		ND		ND		ND	
(c) Extrusion Spent Emulsions		ND		ND		ND		ND		ND	
(d) Extrusion Press Hydraulic Fluid Leakage	0.104	0.043	0.069	0.029	0.455	0.301	31.6	13.9	14.1	6.26	extruded
(e) Swaging Spent Neat Oils		ND		ND		ND		ND		ND	
(f) Heat Treatment Contact Cooling Water	0.015	0.006	0.010	0.004	0.066	0.044	4.57	2.01	2.04	0.906	heat treated
(g) Tube Reducing Spent Lubricants		ND		ND		ND		ND		ND	
(h) Surface Treatment Spent Baths	0.150	0.061	0.099	0.041	0.653	0.432	45.3	20.0	20.0	8.98	surface treated
(i) Surface Treatment Rinse	0.391	0.160	0.258	0.107	1.71	1.13	119	52.1	52.9	23.5	surface treated
(j) Alkaline Cleaning Spent Baths	0.704	0.288	0.464	0.192	3.07	2.03	214	93.8	95.2	42.3	alkaline cleaned
(k) Alkaline Cleaning Rinse	1.38	0.565	0.911	0.377	6.03	3.99	419	184	187	82.9	alkaline cleaned
(l) Sawing/Grinding Spent Emulsions	0.124	0.051	0.082	0.034	0.540	0.357	37.5	16.50	16.7	7.42	sawed or ground with emulsions
(m) Wet Air Pollution Control Scrubber Blowdown		NA		NA		NA		NA		NA	
(n) Degreasing Spent Solvents		ND		ND		ND		ND		ND	
(o) Degreasing Rinse		ND		ND		ND		ND		ND	
(p) Molten Salt Rinse	0.333	0.136	0.220	0.091	1.45	0.960	101	44.3	45.0	20.0	treated with molten salt
(q) Sawing/Grinding Contact Cooling Water	0.142	0.058	0.093	0.039	0.617	0.408	42.8	18.8	19.1	8.48	sawed or ground with contact cooling water
(r) Sawing/Grinding Rinse	0.079	0.033	0.052	0.022	0.346	0.229	24.0	10.6	10.7	4.75	(sawed or ground zirconium hafnium) rinsed
(s) Sawing/Grinding Spent Neat Oils		ND		ND		ND		ND		ND	
(t) Inspection and Testing Wastewater	0.007	0.003	0.005	0.002	0.030	0.020	2.06	0.903	0.917	0.407	tested

ND = No Discharge of Process Wastewater Pollutants
NA = No Allowance for the Discharge of Process Wastewater Pollutants

SUBPART I - ZIRCONIUM/HAFNIUM FORMING SUBCATEGORY

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant Limits in mg/off-kg (pounds/million off-pounds) of zirconium-hafnium*

	Chromium		Cyanide		Nickel		Ammonia		Fluoride		*Pollutant Unit Basis
Process	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Rolling Spent Neat Oils		ND		ND		ND		ND		ND	
(b) Drawing Spent Lubricants		ND		ND		ND		ND		ND	
(c) Extrusion Spent Emulsions		ND		ND		ND		ND		ND	
(d) Extrusion Press Hydraulic Fluid Leakage	0.104	0.043	0.069	0.029	0.455	0.301	31.6	13.9	14.1	6.26	extruded
(e) Swaging Spent Neat Oils		ND		ND		ND		ND		ND	
(f) Heat Treatment Contact Cooling Water	0.015	0.006	0.010	0.004	0.066	0.044	4.57	2.01	2.04	0.906	heat treated
(g) Tube Reducing Spent Lubricants		ND		ND		ND		ND		ND	
(h) Surface Treatment Spent Baths	0.150	0.061	0.099	0.041	0.653	0.432	45.3	20.0	20.0	8.98	surface treated
(i) Surface Treatment Rinse	0.391	0.160	0.258	0.107	1.71	1.13	119	52.1	52.9	23.5	surface treated
(j) Alkaline Cleaning Spent Baths	0.704	0.288	0.464	0.192	3.07	2.03	214	93.8	95.2	42.3	alkaline cleaned
(k) Alkaline Cleaning Rinse	1.38	0.565	0.911	0.377	6.03	3.99	419	184	187	82.9	alkaline cleaned
(l) Sawing/Grinding Spent Emulsions	0.124	0.051	0.082	0.034	0.540	0.357	37.5	16.50	16.7	7.42	sawed or ground with emulsions
(m) Wet Air Pollution Control Scrubber Blowdown		NA		NA		NA		NA		NA	
(n) Degreasing Spent Solvents		ND		ND		ND		ND		ND	
(o) Degreasing Rinse		ND		ND		ND		ND		ND	
(p) Molten Salt Rinse	0.333	0.136	0.220	0.091	1.45	0.960	101	44.3	45.0	20.0	treated with molten salt
(q) Sawing/Grinding Contact Cooling Water	0.142	0.058	0.093	0.039	0.617	0.408	42.8	18.8	19.1	8.48	sawed or ground with contact cooling water
(r) Sawing/Grinding Rinse	0.079	0.033	0.052	0.022	0.346	0.229	24.0	10.6	10.7	4.75	(sawed or ground zirconium hafnium) rinsed
(s) Sawing/Grinding Spent Neat Oils		ND		ND		ND		ND		ND	
(t) Inspection and Testing Wastewater	0.007	0.003	0.005	0.002	0.030	0.020	2.06	0.903	0.917	0.407	tested

ND = No Discharge of Process Wastewater Pollutants
NA = No Allowance for the Discharge of Process Wastewater Pollutants

SUBPART J - METAL POWDERS SUBCATEGORY

PRETREATMENT STANDARDS FOR EXISTING SOURCES

	Pollutant Limits in mg/off-kg (pounds/million off-pounds) of powder*						
	Copper		Cyanide		Lead		*Pollutant Unit Basis
Process	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Metal Powder Production Atomization Wastewater	9.58	5.04	1.46	0.605	2.12	1.01	wet atomized
(b) Sizing Spent Emulsions	0.028	0.015	0.004	0.002	0.006	0.003	sized
(c) Oil-Resin Impregnation Wastewater	ND		ND		ND		
(d) Steam Treatment Wet Air Pollution Control Scrubber Blowdown	1.51	0.792	0.230	0.095	0.333	0.159	metallurgy part steam treated
(e) Tumbling, Burnishing and Cleaning Wastewater	8.36	4.40	1.28	0.528	1.85	0.880	metallurgy part tumbled, burnished or cleaned
(f) Sawing/Grinding Spent Neat Oils	ND		ND		ND		
(g) Sawing/Grinding Spent Emulsions	0.035	0.018	0.005	0.002	0.008	0.004	sawed or ground with emulsions
(h) Sawing/Grinding Contact Cooling Water	3.08	1.62	0.470	0.195	0.681	0.324	sawed or ground with contact cooling water
(i) Hot Press Contact Cooling Water	16.7	8.80	2.55	1.06	3.70	1.76	cooled after pressing
(j) Mixing Wet Air Pollution Control Scrubber Blowdown	15.0	7.90	2.29	0.948	3.32	1.58	mixed
(k) Degreasing Spent Solvents	ND		ND		ND		

ND = No Discharge of Process Wastewater Pollutants

SUBPART J - METAL POWDERS SUBCATEGORY

PRETREATMENT STANDARDS FOR NEW SOURCES

	Pollutant Limits in mg/off-kg (pounds/million off-pounds) of powder*						
	Copper		Cyanide		Lead		*Pollutant Unit Basis
Process	Max	Avg.	Max	Avg.	Max	Avg.	
(a) Metal Powder Production Atomization Wastewater	9.58	5.04	1.46	0.605	2.12	1.01	wet atomized
(b) Sizing Spent Emulsions	0.028	0.015	0.004	0.002	0.006	0.003	sized
(c) Oil-Resin Impregnation Wastewater	ND		ND		ND		
(d) Steam Treatment Wet Air Pollution Control Scrubber Blowdown	1.51	0.792	0.230	0.095	0.333	0.159	metallurgy part steam treated
(e) Tumbling, Burnishing and Cleaning Wastewater	8.36	4.40	1.28	0.528	1.85	0.880	metallurgy part tumbled, burnished or cleaned
(f) Sawing/Grinding Spent Neat Oils	ND		ND		ND		
(g) Sawing/Grinding Spent Emulsions	0.035	0.018	0.005	0.002	0.008	0.004	sawed or ground with emulsions
(h) Sawing/Grinding Contact Cooling Water	3.08	1.62	0.470	0.195	0.681	0.324	sawed or ground with contact cooling water
(i) Hot Press Contact Cooling Water	16.7	8.80	2.55	1.06	3.70	1.76	cooled after pressing
(j) Mixing Wet Air Pollution Control Scrubber Blowdown	15.0	7.90	2.29	0.948	3.32	1.58	mixed
(k) Degreasing Spent Solvents	ND		ND		ND		

ND = No Discharge of Process Wastewater Pollutants

40 CFR PART 421

NONFERROUS METALS MANUFACTURING (PHASE I)

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms subject to the Nonferrous Metals Manufacturing (Phase I) categorical standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Nonferrous Metals Manufacturing standards were established by the Environmental Protection Agency under Part 421 of Title 40 of the Code of Federal Regulations (40 CFR 421). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	February 17, 1983	Vol. 48, p. 7032
Final Rule	March 8, 1984	Vol. 49, p. 8742
Correction	June 29, 1984	Vol. 49, p. 26738
Correction	July 24, 1984	Vol. 49, p. 29792
Correction	March 28, 1985	Vol. 50, p. 12252
Proposed Rule	May 20, 1986	Vol. 51, p. 18530
Proposed Rule	January 22, 1987	Vol. 52, p. 2480
Proposed Rule, Correction	February 17, 1987	Vol. 52, p. 4822
Final Regulation, Amendment	July 7, 1987	Vol. 52, p. 25552
Final Regulation, Amendment	January 21, 1988	Vol. 53, p. 1704

APPLICABLE DATES

Effective Date for all Subparts except B, C, and J:	April 23, 1984
Effective Date for Subparts B and C Primary and Secondary Aluminum Smelting:	August 20, 1987
Effective Date for Subpart J Primary Tungsten	March 7, 1988
Baseline Monitoring Report (BMR) Due Date:	October 20, 1984

Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES) except Subcategory J Tungsten: March 9, 1987
- Pretreatment Standards for Existing Sources for Subpart J, Primary Tungsten: February 22, 1988
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Nonferrous Metals Manufacturing Category (Phase I) is divided into 12 subcategories that correspond to different processes used by firms in the industry. Many of the subcategories are differentiated according to primary or secondary nonferrous metal operations. Primary operations produce metals from ore concentrates, while secondary operations recover metals from recycled metallic wastes (e.g., aluminum cans, lead batteries). Subcategory A, Bauxite Refining, will be regulated under the Phase II regulations for this industrial category. The subcategories listed below as regulated by Phase I are generally classified under SIC Codes 333 and 334.

Subcategory B - Primary Aluminum Smelting
Subcategory C - Secondary Aluminum Smelting
Subcategory D - Primary Copper Smelting
Subcategory E - Primary Electrolytic Copper Refining
Subcategory F - Secondary Copper
Subcategory G - Primary Lead
Subcategory H - Primary Zinc
Subcategory I - Metallurgical Acid Plants
Subcategory J - Primary Tungsten
Subcategory K - Primary Columbium-Tantalum
Subcategory L - Secondary Silver
Subcategory M - Secondary Lead

Most of the subcategories are further divided by individual manufacturing processes and are regulated under a building block approach which establishes a mass-based standard for each specific process, or building block. These standards are then summed to give the maximum permissible mass discharge for the entire operation. A facility will receive a discharge allowance for a particular building block only if it operates that specific process. However, the facility does not have to discharge wastewater from the process to receive the allowance.

REGULATED POLLUTANTS

The 12 pollutants regulated under the different subcategories of the Nonferrous Metals Manufacturing Category (Phase I) are ammonia, antimony, arsenic, benzo(a)pyrene, cadmium, copper, total cyanide, fluoride, lead, nickel, phenolics, and zinc. Not all of these pollutants are controlled in each subcategory. Limits are established only where the pollutant appears in treatable concentrations in the wastewater.

PRETREATMENT STANDARDS FOR EXISTING SOURCES AND NEW SOURCES (PSES AND PSNS)

PSES and PSNS for all 12 subcategories of the Nonferrous Metals Manufacturing Category (Phase I) are presented in the tables on the following pages. Pretreatment standards for existing sources are reserved for Subparts B, D, and E. The PSES for Subcategory F, Secondary Copper, are zero discharge for all process wastewater except for precipitation in excess of that attributable to a 25-year, 24-hour rainfall event that falls on a process wastewater

impoundment (see 40 CFR 421.65). The PSNS for Subcategory F is zero discharge for all process wastewater and does not include the above allowance for catastrophic stormwater discharges.

The "Max" Standards are the maximum levels of pollutants for any one day. The "Avg" Standards are the maximum levels of pollutants for a monthly average of all samples taken. All standards are mass-based in units that vary according to subcategory.

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

SUBCATEGORY B - PRIMARY ALUMINUM SMELTING

Reserved

SUBCATEGORY C - SECONDARY ALUMINUM SMELTING

	Pollutant limits in mg/kg (pounds/million pounds) of*						
	Lead		Zinc		Ammonia (as N)		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	
(a) Scrap Drying Wet Air Pollution Control	.000	.000	.000	.000	.000	.000	aluminum scrap dried
(b) Scrap Screening and Milling	.000	.000	.000	.000	.000	.000	aluminum scrap screened or milled
(c) Dross Washing	3.043	1.413	11.090	4.565	1,449.000	636.000	dross washed
(d) Demagging Wet Air Pollution	.216	.100	.786	.324	102.800	45.180	aluminum demagged
(e) Delacquering Wet Air Pollution Control**	0.093	.043	.340	.140	44.389	19.514	aluminum delacquered
(f) Direct Chill Casting Contact Cooling	.372	.173	1.356	.558	177.200	77.800	aluminum cast
(g) Ingot Conveyor Casting Contact Cooling (when control not practiced onsite)	.019	.009	.068	.028	8.931	3.926	aluminum cast
(h) Ingot Conveyor Casting Contact Cooling (when control is practiced onsite)	.000	.000	.000	.000	.000	.000	aluminum cast
(i) Stationary Casting Contact Cooling	.000	.000	.000	.000	.000	.000	aluminum cast
(j) Shot Casting Contact Cooling	.000	.000	.000	.000	.000	.000	aluminum cast

**Total phenolics (4-AAP method at the source) are regulated for this process. The maximum for any one day is .004 mg/kg (pounds/million pounds). There is no monthly average standard.

SUBCATEGORY D - PRIMARY COPPER SMELTING

Reserved

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

SUBCATEGORY E - PRIMARY ELECTROLYTIC COPPER REFINING

Reserved

SUBCATEGORY F - SECONDARY COPPER

There shall be no discharge of process wastewater pollutants except for precipitation in excess of that attributable to a 25-year, 24-hour rainfall event that falls on a process wastewater impoundment (see 40 CFR 421.65).

SUBCATEGORY G - PRIMARY LEAD

	Pollutant limits in mg/kkg (pounds/billion pounds) of*				
	Lead		Zinc		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	
(a) Sinter Plant Materials Handling Wet Air Pollution Control	100.8	46.8	367.2	151.2	sinter production
(b) Blast Furnace Wet Air Pollution Control	.000	.000	.000	.000	blast furnace lead bullion produced
(c) Blast Furnace Slag Granulation	.000	.000	.000	.000	blast furnace lead bullion produced
(d) Dross Reverbatory Slag Granulation	1,612.0	748.4	5,872.0	2,418.0	slag, speiss, or matte granulated
(e) Dross Reverbatory Furnace Wet Air Pollution Control	.000	.000	.000	.000	dross reverberatory furnace production
(f) Zinc Fuming Wet Air Pollution Control	.000	.000	.000	.000	blast furnace lead bullion produced
(g) Hard Lead Refining Slug Granulation	.000	.000	.000	.000	hard lead produced
(h) Hard Lead Refining Wet Air Pollution Control	.000	.000	.000	.000	hard lead produced
(i) Facility Washdown	.000	.000	.000	.000	lead bullion produced
(j) Employee Handwash	.924	.429	3.366	1.386	lead bullion produced
(k) Respirator Wash	1.484	.689	5.406	2.226	lead bullion produced
(l) Laundering of Uniforms	4.340	2.015	15.810	6.510	lead bullion produced

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

SUBCATEGORY H - PRIMARY ZINC

Pollutant limits in mg/kg (pounds/million pounds) of*

Process	Cadmium Max	Cadmium Avg	Zinc Max	Zinc Avg	*Pollutant Unit Basis
(a) Zinc Reduction Furnace Wet Air Pollution Control	.334	.134	1.702	.701	zinc reduced
(b) Preleach of Zinc Concentrates	.180	.072	.919	.378	concentrate leached
(c) Leaching Wet Air Pollution Control	.000	.000	.000	.000	zinc processed through leaching
(d) Electrolyte Bleed Wastewater	.086	.035	.441	.182	cathode zinc produced
(e) Cathode and Anode Wash Wastewater	.150	.060	.766	.315	cathode zinc produced
(f) Casting Wet Air Pollution Control	.051	.021	.262	.108	zinc cast
(g) Casting Contact Cooling	.036	.014	.185	.076	zinc cast
(h) Cadmium Plant Wastewater	1.234	.494	6.295	2.592	cadmium produced

SUBCATEGORY I - METALLURGICAL ACID PLANTS

The mass of wastewater pollutants [mg/kg (pounds/million pounds) of 100 pct sulfuric acid capacity] in metallurgical acid plant blowdown introduced into a POTW shall not exceed these values:

Pollutant limits in mg/kg (pounds/million pounds) of 100 pct sulfuric acid capacity

Cadmium Max	Cadmium Avg	Zinc Max	Zinc Avg
.511	.204	2.605	1.073

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

SUBCATEGORY J - PRIMARY TUNGSTEN

	Pollutant limits in mg/kg (pounds/million pounds) of*						
	Lead		Zinc		Ammonia (as N)		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	
(a) Tungstic Acid Rinse	11.490	5.333	41.850	17.230	5,469.0	2,404.0	tungstic acid produced
(b) Acid Leach Wet Air Pollution	1.003	.466	3.653	1.504	477.400	209.90	tungstic acid produced
(c) Alkali Leach Wash	.000	.000	.000	.000	.000	.000	sodium tungstate produced
(d) Subpart J - Alkali Leach Wash Condensate	5.372	2.494	19.570	8.057	2,557.0	1,124.0	sodium tungstate produced
(e) Ion-Exchange Raffinate (Commingled with Other Process or Nonprocess Waters)	24.780	11.500	90.240	37.160	11,790.0	5,185.0	ammonium tungstate produced
(f) Ion Exchange Raffinate (Not Commingled with Other Process or Nonprocess Waters)	24.780	11.500	90.240	37.160	11,790.0	5,185.0	ammonium tungstate produced
(g) Calcium Tungstate Precipitate Wash	20.670	9.594	75.280	31.000	9,838.0	4,325.0	calcium tungstate produced
(h) Crystallization and Drying of Ammonium Paratungstate	.000	.000	.000	.000	.000	.000	ammonium paratungstate produced
(i) Ammonium Paratungstate Conversion to Oxides Wet Air Pollution Control	.773	.359	2.817	1.160	368.2	161.9	tungstic oxide (WO_3) produced
(j) Ammonium Paratungstate Conversion to Oxides Water of Formation	.018	.008	.064	.026	8.398	3.692	tungstic oxide (WO_3) produced
(k) Reduction to Tungsten Wet Air Pollution Control	.862	.400	3.142	1.294	410.6	180.5	tungsten metal produced
(l) Reduction to Tungsten Water of Formation	.137	.064	.499	.205	65.190	28.660	tungsten metal produced
(m) Tungsten Powder Acid Leach and Wash	.672	.312	2.448	1.008	319.9	140.7	tungsten metal produced
(n) Molybdenum Sulfide Precipitation Wet Air Pollution Control	.000	.000	.000	.000	.000	.000	molybdenum sulfide precipitated

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

SUBCATEGORY K - PRIMARY COLUMBIUM-TANTALUM

	Pollutant limits in mg/kg (pounds/million pounds) of*								
	Lead		Zinc		Ammonia (as N)		Fluoride		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
(a) Concentrate Digestion Wet Air Pollution Control	.174	.081	.635	.261	82.910	36.450	21.770	12.440	concentrate digested
(b) Solvent Extraction Raffinate	2.592	1.203	9.442	3.888	1,233	542.5	324.0	185.1	concentrate digested
(c) Solvent Extraction Wet Air Pollution Control	.069	.032	.251	.103	32.790	14.420	8.610	4.920	concentrate digested
(d) Precipitation and Filtration	3.833	1.780	13.960	5.750	1,825	802.2	479.1	273.8	concentrate digested
(e) Precipitation and Filtration Wet Air Pollution Control	1.778	.826	6.478	2.668	846.6	372.2	222.3	127.0	concentrate digested
(f) Tantalum Salt Drying	16.950	7.871	61.75	25.43	8,070	3,548	2,119	1,211	tantalum salt dried
(g) Oxides Calcining Wet Air Pollution Control	1.076	.500	3.919	1.614	512.2	225.2	134.50	76.84	columbium-tantalum oxide digested
(h) Reduction of Tantalum Salt to Metal	46.50	21.59	169.40	69.75	22,140	9,732	5,813	3,322	tantalum salt reduced
(i) Reduction of Tantalum Salt to Metal Wet Air Pollution Control	.572	.266	2.084	.858	272.4	119.7	71.51	40.86	tantalum salt reduced
(j) Tantalum Powder Wash	5.721	2.656	20.840	8.582	2,724	1,198	715.2	408.7	tantalum powder washed
(k) Consolidation and Casting Contact Cooling	.000	.000	.000	.000	.000	.000	.000	.000	columbium or tantalum cast or consolidated

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

SUBCATEGORY L - SECONDARY SILVER

	Pollutant limits in mg/troy ounce of silver*						
	Copper		Zinc		Ammonia (as N)		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	
(a) Film Stripping	64.45	30.72	51.36	21.15	6,712	2,951	from film stripping
(b) Film Stripping Wet Air Pollution Control and Precipitation and Filtration of Film Stripping Solutions Wet Air Pollution Control	1.242	.592	.990	.408	129.300	56.840	from precipitation and filtration of film
(c) Precipitation and Filtration of Film Stripping Solutions	73.690	35.120	58.720	24.180	7,674	3,374	precipitated
(d) Precipitation and Filtration of Photographic Solutions	34.048	16.226	27.132	11.172	3,545	1,559	precipitated
(e) Precipitation and Filtration of Photographic Solutions Wet Air Pollution Control	15.540	7.406	12.380	5.099	1,618.0	711.4	from precipitation and filtration of photographic solutions
(f) Electrolytic Refining	.973	.464	.775	.319	101.3	44.54	from electrolytic refining
(g) Furnace Wet Air Pollution Control	.000	.000	.000	.000	.000	.000	roasted, smelted or dried
(h) Leaching	.110	.053	.088	.036	11.47	5.04	produced from leaching
(i) Leaching Wet Air Pollution Control and Precipitation of NonPhotographic Solutions Wet Air Pollution Control	5.671	2.703	4.519	1.861	590.5	259.6	produced from leaching or precipitation
(j) Precipitation and Filtration of Nonphotographic Solutions	3.930	1.873	3.132	1.290	409.3	179.9	precipitated
(k) Floor and Equipment Washdown	.000	.000	.000	.000	.000	.000	production

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

SUBCATEGORY M - SECONDARY LEAD

Pollutant limits in mg/kg (pounds/million pounds) of lead*

	Antimony		Arsenic		Lead		Zinc		Ammonia (as N)		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
(a) Battery Cracking	1.299	.579	.936	.384	.189	.087	.687	.283	.000	.000	scrap produced
(b) Blast, Reverberatory, or Rotary Furnace Wet Air Pollution Control	5.038	2.245	3.628	1.488	.731	.339	2.662	1.096	.000	.000	produced from smelting
(c) Kettle Wet Air Pollution Control	.087	.039	.063	.026	.013	.006	.046	.019	.000	.000	produced from refining
(d) Lead Paste Desulfurization	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	processed through desulfurization
(e) Casting Contact Cooling	.042	.019	.031	.013	.006	.003	.022	.009	.000	.000	cast
(f) Truck Wash	.041	.018	.029	.012	.006	.003	.021	.009	.000	.000	proudced from smelting
(g) Facility Washdown	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	produced from smelting
(h) Battery Case Classification	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	scrap produced
(i) Employee Handwash	.052	.023	.038	.015	.008	.004	.028	.011	.000	.000	produced from smelting
(j) Employee Respirator Wash	.085	.038	.061	.025	.012	.006	.045	.018	.000	.000	produced from smelting
(k) Laundering of Uniforms	.247	.110	.178	.073	.036	.017	.131	.054	.000	.000	produced from smelting

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

SUBCATEGORY B - PRIMARY ALUMINUM SMELTING

	Pollutant limits in mg/kg (pounds/million pounds) of*								
	Benzo(a)pyrene		Nickel		Fluoride		Cyanide		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
(a) Anode and Cathode Paste Plant Wet Air Pollution Control	.000	--	.000	.000	.000	.000	--	--	paste produced
(b) Anode Contact Cooling and Briquette Quenching	.007	.003	.115	.077	12.440	5.518	--	--	anodes cast
(c) Anode Bake Plant Wet Air Pollution Control	.000	--	.000	.000	.000	.000	--	--	anodes baked
(d) Cathode Reprocessing (Operated With Dry Potline Scrubbing and Not Commingled With Other Process or Non-process Waters)	1.181	.547	80.57	35.03	29,430	13,310	157.6	70.06	cryolite recovered
(e) Cathode Reprocessing (operated with dry potline scrubbing and commingled with other process or non-process waters	1.181	.547	19.27	12.96	2,084.0	924.8	157.60	70.06	cryolite recovered
(f) Potline Wet Air Pollution Control	.000	--	.000	.000	.000	.000	--	--	aluminum produced from electrolytic reduction
(g) Potroom Wet Air Pollution Control	.000	--	.000	.000	.000	.000	--	--	aluminum produced from electrolytic reduction
(h) Potline SO_2 Emissions Wet Air Pollution Control	.045	.021	.738	.496	79.790	35.400	--	--	aluminum produced from electrolytic reduction
(i) Degassing Wet Air Pollution Control	.000	--	.000	.000	.000	.000	--	--	aluminum produced from electrolytic reduction
(j) Pot Repair and Pot Soaking	.000	--	.000	.000	.000	.000	--	--	aluminum produced from electrolytic reduction
(k) Direct Chill Casting Contact Cooling	+	+	.731	.492	79.080	35.090	--	--	aluminum product from direct chill casting
(l) Continuous Rod Casting Contact Cooling	+	+	.057	.038	6.188	2.746	--	--	aluminum product from rod casting
(m) Stationary Casting or Shot Casting Contact Cooling	.000	--	.000	.000	.000	.000	--	--	aluminum product from stationary casting or shot casting

+ There shall be no discharge allowance for this pollutant.

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

SUBCATEGORY C - SECONDARY ALUMINUM SMELTING

	Pollutant limits in mg/kg (pounds/million pounds) of*						
	Lead		Zinc		Ammonia (as N)		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	
(a) Scrap Drying Wet Air Pollution Control	.000	.000	.000	.000	.000	.000	aluminum scrap dried
(b) Scrap Screening and Milling	.000	.000	.000	.000	.000	.000	aluminum scrap screened or milled
(c) Dross Washing	.000	.000	.000	.000	.000	.000	dross washed
(d) Demagging Wet Air Pollution	.216	.100	.786	.324	102.800	45.180	aluminum demagged
(e) Delacquering Wet Air Pollution Control*	.093	.043	.340	.140	44.389	19.514	aluminum delacquered
(f) Direct Chill Casting Contact Cooling	.372	.173	1.356	.558	177.200	77.800	aluminum cast
(g) Ingot Conveyor Casting Contact Cooling (when control not practiced)	.019	.009	.068	.028	8.931	3.926	aluminum cast
(h) Ingot Conveyor Casting Contact Cooling (when control is practiced)	.000	.000	.000	.000	.000	.000	aluminum cast
(i) Stationary Casting Contact Cooling	.000	.000	.000	.000	.000	.000	aluminum cast
(j) Shot Casting Contact Cooling	.000	.000	.000	.000	.000	.000	aluminum cast

*Total phenolics (4-AAP method at the source) are regulated for this process. The maximum for any one day is .004 mg/kg (pounds/million pounds). There is no monthly average standard.

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

SUBCATEGORY D - PRIMARY COPPER SMELTING

There shall be no discharge of process wastewater pollutants into publicly owned treatment works.

SUBCATEGORY E - PRIMARY ELECTROLYTIC COPPER REFINING

	Pollutant limits in mg/kg (pounds/million pounds) of*						
	Arsenic		Copper		Nickel		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	
(a) Casting Contact Cooling	.692	.309	.638	.304	.274	.184	copper cast
(b) Anode and Cathode Rinse	.000	.000	.000	.000	.000	.000	cathode copper production
(c) Spent Electrolyte	.068	.031	.063	.030	.027	.018	cathode copper production
(d) Casting Wet Air Pollution Control	.000	.000	.000	.000	.000	.000	casting production
(e) By-product Recovery	.000	.000	.000	.000	.000	.000	product recovered from electrolytic slimes processing

SUBCATEGORY F - SECONDARY COPPER

There shall be no discharge of process wastewater pollutants into publicly owned treatment works.

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

SUBCATEGORY G - PRIMARY LEAD

Pollutant limits in mg/kkg (pounds/billion pounds) of*

Process	Lead Max	Lead Avg	Zinc Max	Zinc Avg	*Pollutant Unit Basis
(a) Sinter Plant Materials Handling Wet Air Pollution Control	.000	.000	.000	.000	sinter production
(b) Blast Furnace Wet Air Pollution Control	.000	.000	.000	.000	blast furnace lead bullion produced
(c) Blast Furnace Slag Granulation	.000	.000	.000	.000	blast furnace lead bullion produced
(d) Dross Reverbatory Slag Granulation	.000	.000	.000	.000	slag, speiss, or matte granulated
(e) Dross Reverbatory Furnace Wet Air Pollution Control	.000	.000	.000	.000	dross reverberating furnace production
(f) Zinc Fuming Wet Air Pollution Control	.000	.000	.000	.000	blast furnace lead bullion produced
(g) Hard Lead Refining Slug Granulation	.000	.000	.000	.000	hard lead produced
(h) Hard Lead Refining Wet Air Pollution Control	.000	.000	.000	.000	hard lead produced
(i) Facility Washdown	.000	.000	.000	.000	lead bullion produced
(j) Employee Handwash	.924	.429	3.366	1.386	lead bullion produced
(k) Respirator Wash	1.484	.689	5.406	2.226	lead bullion produced
(l) Laundering of Uniforms	4.340	2.015	15.810	6.510	lead bullion produced

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

SUBCATEGORY H - PRIMARY ZINC

	Pollutant limits in mg/kg (pounds/million pounds) of*				
	Cadmium		Zinc		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	
(a) Zinc Reduction Furnace Wet Air Pollution Control	.334	.134	1.702	.701	zinc reduced
(b) Preleach of Zinc Concentrates	.180	.072	.919	.378	concentrate leached
(c) Leaching Wet Air Pollution Control	.000	.000	.000	.000	zinc processed through leaching
(d) Electrolyte Bleed Wastewater	.086	.035	.441	.182	cathode zinc produced
(e) Cathode and Anode Wash Wastewater	.150	.060	.766	.315	cathode zinc produced
(f) Casting Wet Air Pollution Control	.051	.021	.262	.108	zinc cast
(g) Casting Contact Cooling	.036	.014	.185	.076	zinc cast
(h) Cadmium Plant Wastewater	1.234	.494	6.295	2.592	cadmium produced

SUBCATEGORY I - METALLURGICAL ACID PLANTS

The mass of wastewater pollutants [mg/kg (pounds/million pounds) of 100 pct sulfuric acid capacity] in metallurgical acid plant blowdown introduced into a POTW shall not exceed these values:

Pollutant limits in mg/kg (pounds/million pounds) of 100 pct sulfuric acid capacity

Arsenic		Cadmium		Copper		Lead		Zinc	
Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg
3.550	1.584	.511	.204	3.269	1.558	.715	.332	2.605	1.073

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

SUBCATEGORY J - PRIMARY TUNGSTEN

	Pollutant limits in mg/kg (pounds/million pounds) of*						
	Lead		Zinc		Ammonia (as N)		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	
(a) Tungstic Acid Rinse	11.490	5.333	41.850	17.230	5,469.0	2,404.0	tungstic acid produced
(b) Acid Leach Wet Air Pollution	1.003	.466	3.653	1.504	477.400	209.90	tungstic acid produced
(c) Alkali Leach Wash	.000	.000	.000	.000	.000	.000	sodium tungstate produced
(d) Subpart J - Alkali Leach Wash Condensate	5.372	2.494	19.570	8.057	2,557.0	1,124.0	sodium tungstate produced
(e) Ion-Exchange Raffinate (Commingled with Other Process or Nonprocess Waters)	24.780	11.500	90.240	37.160	11,790.0	5,185.0	ammonium tungstate produced
(f) Ion Exchange Raffinate (Not Commingled with Other Process or Nonprocess Waters)	24.780	11.500	90.240	37.160	11,790.0	5,185.0	ammonium tungstate produced
(g) Calcium Tungstate Precipitate Wash	20.670	9.594	75.280	31.000	9,838.0	4,325.0	calcium tungstate produced
(h) Crystallization and Drying of Ammonium Paratungstate	.000	.000	.000	.000	.000	.000	ammonium paratungstate produced
(i) Ammonium Paratungstate Conversion to Oxides Wet Air Pollution Control	.773	.359	2.817	1.160	368.2	161.9	tungstic oxide (WO_3) produced
(j) Ammonium Paratungstate Conversion to Oxides Water of Formation	.018	.008	.064	.026	8.398	3.692	tungstic oxide (WO_3) produced
(k) Reduction to Tungsten Wet Air Pollution Control	.862	.400	3.142	1.294	410.6	180.5	tungsten metal produced
(l) Reduction to Tungsten Water of Formation	.137	.064	.499	.205	65.190	28.660	tungsten metal produced
(m) Tungsten Powder Acid Leach and Wash	.672	.312	2.448	1.008	319.9	140.7	tungsten metal produced
(n) Molybdenum Sulfide Precipitation Wet Air Pollution Control	.000	.000	.000	.000	.000	.000	molybdenum sulfide precipitated

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

SUBCATEGORY K - PRIMARY COLUMBIUM-TANTALUM

	Pollutant limits in mg/kg (pounds/million pounds) of*								
	Lead		Zinc		Ammonia (as N)		Fluoride		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
(a) Concentrate Digestion Wet Air Pollution Control	.174	.081	.635	.261	82.910	36.450	21.770	12.440	concentrate digested
(b) Solvent Extraction Raffinate	2.592	1.203	9.442	3.888	1,233	542.5	324.0	185.1	concentrate digested
(c) Solvent Extraction Wet Air Pollution Control	.069	.032	.251	.103	32.790	14.420	8.610	4.920	concentrate digested
(d) Precipitation and Filtration	3.833	1.780	13.960	5.750	1,825	802.2	479.1	273.8	concentrate digested
(e) Precipitation and Filtration Wet Air Pollution Control	1.778	.826	6.478	2.668	846.6	372.2	222.3	127.0	concentrate digested
(f) Tantalum Salt Drying	16.950	7.871	61.75	25.43	8,070	3,548	2,119	1,211	tantalum salt dried
(g) Oxides Calcining Wet Air Pollution Control	1.076	.500	3.919	1.614	512.2	225.2	134.50	76.84	columbium-tantalum oxide digested
(h) Reduction of Tantalum Salt to Metal	46.50	21.59	169.40	69.75	22,140	9,732	5,813	3,322	tantalum salt reduced
(i) Reduction of Tantalum Salt to Metal Wet Air Pollution Control	.572	.266	2.084	.858	272.4	119.7	71.51	40.86	tantalum salt reduced
(j) Tantalum Powder Wash	5.721	2.656	20.840	8.582	2,724	1,198	715.2	408.7	tantalum powder washed
(k) Consolidation and Casting Contact Cooling	.000	.000	.000	.000	.000	.000	.000	.000	columbium or tantalum cast or consolidated

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

SUBCATEGORY L - SECONDARY SILVER

	Pollutant limits in mg/troy ounce of silver*						
	Copper		Zinc		Ammonia (as N)		*Pollutant Unit Basis
Process	Max	Avg	Max	Avg	Max	Avg	
(a) Film Stripping	64.45	30.72	51.36	21.15	6,712	2,951	from film stripping
(b) Film Stripping Wet Air Pollution Control and Precipitation and Filtration of Film Stripping Solutions Wet Air Pollution Control	1.242	.592	.990	.408	129.300	56.840	from precipitation and filtration of film
(c) Precipitation and Filtration of Film Stripping Solutions	73.690	35.120	58.720	24.180	7,674	3,374	precipitated
(d) Precipitation and Filtration of Photographic Solutions	34.048	16.226	27.132	11.172	3,545	1,559	precipitated
(e) Precipitation and Filtration of Photographic Solutions Wet Air Pollution Control	15.540	7.406	12.380	5.099	1,618.0	711.4	from precipitation and filtration of photographic solutions
(f) Electrolytic Refining	.973	.464	.775	.319	101.3	44.54	from electrolytic refining
(g) Furnace Wet Air Pollution Control	.000	.000	.000	.000	.000	.000	roasted, smelted or dried
(h) Leaching	.110	.053	.088	.036	11.47	5.04	produced from leaching
(i) Leaching Wet Air Pollution Control and Precipitation of NonPhotographic Solutions Wet Air Pollution Control	5.671	2.703	4.519	1.861	590.5	259.6	produced from leaching or precipitation
(j) Precipitation and Filtration of Nonphotographic Solutions	3.930	1.873	3.132	1.290	409.3	179.9	precipitated
(k) Floor and Equipment Washdown	.000	.000	.000	.000	.000	.000	production

Nonferrous Metals Manufacturing (Cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

SUBCATEGORY M - SECONDARY LEAD

Pollutant limits in mg/kg (pounds/million pounds) of lead*

Process	Antimony		Arsenic		Lead		Zinc		Ammonia (as N)		*Pollutant Unit Basis
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
(a) Battery Cracking	1.299	.579	.936	.384	.189	.087	.687	.283	.000	.000	scrap produced
(b) Blast, Reverberatory, or Rotary Furnace Wet Air Pollution Control	5.038	2.245	3.628	1.488	.731	.339	2.662	1.096	.000	.000	produced from smelting
(c) Kettle Wet Air Pollution Control	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	produced from smelting
(d) Lead Paste Desulfurization	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	produced through desulfurization
(e) Casting Contact Cooling	.042	.019	.031	.013	.006	.003	.022	.009	.000	.000	cast
(f) Truck Wash	.041	.018	.029	.012	.006	.003	.021	.009	.000	.000	produced from smelting
(g) Facility Washdown	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	produced from smelting
(h) Battery Case Classification	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	scrap produced
(i) Employee Handwash	.052	.023	.038	.015	.008	.004	.028	.011	.000	.000	produced from smelting
(j) Employee Respirator Wash	.085	.038	.061	.025	.012	.006	.045	.018	.000	.000	produced from smelting
(k) Laundering of Uniforms	.247	.110	.178	.073	.036	.017	.131	.054	.000	.000	produced from smelting

40 CFR PART 421

NONFERROUS METALS MANUFACTURING (PHASE II)

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGES

This summary provides firms subject to the Nonferrous Metals Manufacturing (Phase II) categorical standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Nonferrous Metals Manufacturing standards were established by the Environmental Protection Agency under Part 421 of Title 40 of the Code of Federal Regulations (40 CFR 421). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	June 27, 1984	Vol. 49, p. 26352
Final Rule	September 20, 1985	Vol. 50, p. 38276
Correction	October 9, 1985	Vol. 50, p. 41144
Correction	December 26, 1985	Vol. 50, p. 52775

APPLICABLE DATES

Effective Date: November 4, 1985
Baseline Monitoring Report (BMR) Due Date: May 3, 1986
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): September 20, 1988
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Nonferrous Metals Manufacturing Category (Phase II) is divided into 25 subcategories that correspond to different processes used by firms in the industry. Many of the subcategories are differentiated according to primary or secondary nonferrous metal operations. Primary operations produce metals from ore concentrates, while secondary operations recover metals from recycled metallic wastes (e.g., aluminum cans, lead batteries). The subcategories regulated under Phase II are:

Subcategory A - Bauxite Refining
Subcategory I - Metallurgical Acid Plants
Subcategory N - Primary Antimony
Subcategory O - Primary Beryllium
Subcategory P - Primary and Secondary Germanium and Gallium

Subcategory Q - Secondary Indium
Subcategory R - Secondary Mercury
Subcategory S - Primary Molybdenum and Rhenium
Subcategory T - Secondary Molybdenum and Vanadium
Subcategory U - Primary Nickel and Cobalt
Subcategory V - Secondary Nickel
Subcategory W - Primary Precious Metals and Mercury
Subcategory X - Secondary Precious Metals
Subcategory Y - Primary Rare Earth Metals
Subcategory Z - Secondary Tantalum
Subcategory AA - Secondary Tin
Subcategory AB - Primary and Secondary Titanium
Subcategory AC - Secondary Tungsten and Cobalt
Subcategory AD - Secondary Uranium
Subcategory AE - Primary Zirconium and Hafnium

Bauxite Refining, Subcategory A, has no pretreatment standards as there are no indirect dischargers. Subcategory I, Metallurgical Acid Plants, has been provided in Phase II as an amendment to include molybdenum acid plants. Primary Boron was excluded from regulation because there were no existing dischargers and no new discharging plants were expected to be built. Primary Cesium and Rubidium plants were excluded because the small quantity and low toxicity of discharges did not warrant development of pretreatment standards. Primary Lithium and Secondary Zinc were excluded because their production processes do not require water. Primary Magnesium was excluded because its production does not result in wastewater with treatable concentrations of pollutants. The remaining 20 subcategories contain 31 primary metals and metal groups, 20 secondary metals and metal groups, and bauxite refining. The above listed subcategories are generally classified under SIC codes 333 and 334.

Most of the subcategories are further divided into individual manufacturing processes and are regulated under a building block approach which establishes a mass-based standard for each specific process, or building block. These standards are then summed to give the maximum permissible mass discharge for the entire operation. A facility will receive a discharge allowance for a particular building block only if it operates that specific process. However, the facility does not have to discharge wastewater from the process to receive the allowance.

REGULATED POLLUTANTS

There are 27 pollutants regulated under the different subcategories of the Nonferrous Metals Manufacturing Category (Phase II). Not all of these pollutants are controlled in each subcategory. Limits are established only where the pollutant appears in treatable concentrations in the wastewaters. The regulated pollutants and their corresponding subcategories are shown in the tables on the following pages.

PRETREATMENT STANDARDS FOR EXISTING SOURCES AND NEW SOURCES (PSES AND PSNS)

PSES and PSNS for 20 subcategories of the Nonferrous Metals Manufacturing Category (Phase II) are presented in the tables on the following pages. Pretreatment standards for existing sources are reserved for Subparts N, O, R, S, T, U, W, Z, AD, and AE.

The "Max" Standards are the maximum levels of pollutants for any one day. The "Avg" Standards are the maximum levels of pollutants for a monthly average of all samples taken. All standards are mass-based in units that vary according to subcategory.

SUBCATEGORY I - METALLURGICAL ACID PLANTS

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of 100 percent sulfuric acid capacity	
Cadmium	.511	.204
Zinc	2.605	1.073

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of 100 percent sulfuric acid capacity	
Arsenic	3.550	1.584
Cadmium	.511	.204
Copper	3.269	1.558
Lead	.715	.332
Zinc	2.605	1.073
Fluoride[1]	89.390	50.820
Molybdenum[1]	12.850	5.695

[1]For Molybdenum acid plants only

SUBCATEGORY N - PRIMARY ANTIMONY

PSES

RESERVED

PSNS

(a) Sodium Antimonate Autoclave Wastewater

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of antimony contained in sodium antimonate product	
Antimony.....	30.150	13.440
Arsenic.....	21.720	9.687
Mercury.....	2.344	0.937

(b) Fouled Anolyte

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of antimony metal produced by electrowinning	
Antimony.....	30.150	13.440
Arsenic.....	21.720	9.687
Mercury.....	2.344	0.937

(c) Cathode Antimony Washwater

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of antimony metal produced by electrowinning	
Antimony.....	60.310	26.870
Arsenic.....	43.430	19.370
Mercury.....	4.687	1.875

SUBCATEGORY O - PRIMARY BERYLLIUM

PSES

RESERVED

SUBCATEGORY O - PRIMARY BERYLLIUM

PSNS

(a) Solvent Extraction Raffinate - Bertrandite Ore

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of beryllium carbonate produced from bertrandite ore as beryllium	
Beryllium	1,842.000	831.000
Chromium (total)	831.000	336.900
Copper	2,875.000	1,370.000
Cyanide (total)	449.200	179.700
Ammonia (as N)	299,400.000	131,600.000
Fluoride	78,610.000	44,700.000

(b) Solvent Extraction Raffinate-Beryl Ore

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of beryllium carbonate produced from beryl ore as beryllium	
Beryllium	180.400	81.400
Chromium (total)	81.400	33.000
Copper	281.600	134.200
Cyanide (total)	44.000	17.600
Ammonia (as N)	29,330.000	12,890.000
Fluoride	7,700.000	4,378.000

(c) Beryllium Carbonate Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of beryllium carbonate produced as beryllium	
Beryllium	175.900	79.370
Chromium (total)	79.370	32.180
Copper	274.600	130.800
Cyanide (total)	42.900	17.160
Ammonia (as N)	28,500.000	12,570.000
Fluoride	7,508.000	4,269.000

SUBCATEGORY O - PSNS (cont.)

(d) Beryllium Hydroxide Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of beryllium carbonate produced as beryllium	
Beryllium	43.180	19.480
Chromium (total)	19.480	7.899
Copper	67.400	32.120
Cyanide (total)	10.530	4.213
Ammonia (as N)	7,020.000	3,066.000
Fluoride	1,843.000	1,048.000

(e) Beryllium Oxide Calcining Furnace Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of beryllium oxide produced	
Beryllium	216.200	97.570
Chromium (total)	97.570	39.580
Copper	333.500	180.900
Cyanide (total)	52.740	21.100
Ammonia (as N)	35,150.000	15,450.000
Fluoride	9,230.000	5,248.000

(f) Beryllium Hydroxide Supernatant

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of beryllium hydroxide produced from scrap and residues as beryllium	
Beryllium	188.600	85.100
Chromium (total)	85.100	34.500
Copper	294.400	140.300
Cyanide (total)	46.000	18.400
Ammonia (as N)	30,660.000	13,480.000
Fluoride	8,050.000	4,577.000

SUBCATEGORY O - PSNS (cont.)

(g) Process Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of beryllium pebbles produced	
Beryllium	143.300	64.680
Chromium (total)	64.680	26.220
Copper	223.700	106.600
Cyanide (total)	34.960	13.980
Ammonia (as N)	23,300.000	10,240.000
Fluoride	6,118.000	3,479.000

(h) Fluoride Furnace Scrubber

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of beryllium pebbles produced	
Beryllium	0.000	0.000
Chromium (total)	0.000	0.000
Copper	0.000	0.000
Cyanide (total)	0.000	0.000
Ammonia (as N)	0.000	0.000
Fluoride	0.000	0.000

(i) Chip Treatment Wastewater

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of beryllium scrap chips treated	
Beryllium	3.889	1.612
Chromium (total)	1.755	0.711
Copper	6.070	2.893
Cyanide (total)	1.550	0.620
Ammonia (as N)	1,033.000	454.200
Fluoride	166.000	94.840

SUBCATEGORY P - PRIMARY AND SECONDARY GERMANIUM AND GALLIUM

PSES

(a) Still Liquor

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of germanium chlorinated	
Arsenic	131.700	58.590
Lead	26.460	12.600
Zinc	91.980	38.430
Fluoride	2,205.000	1,254.000

(b) Chlorinator Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of germanium chlorinated	
Arsenic	27.530	12.250
Lead	5.531	2.634
Zinc	19.230	8.034
Fluoride	461.000	262.100

(c) Germanium Hydrolysis Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of germanium hydrolyzed	
Arsenic	39.440	17.550
Lead	7.925	3.774
Zinc	27.550	11.510
Fluoride	660.500	375.500

SUBCATEGORY P - PSES (cont.)

(d) Acid Wash and Rinse Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of germanium washed	
Arsenic	325.500	144.800
Lead	65.400	31.140
Zinc	227.400	94.990
Fluoride	5,450.000	3,099.000

(e) Gallium Hydrolysis Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of gallium hydrolyzed	
Arsenic	70.450	31.350
Lead	14.160	6.742
Zinc	49.220	20.560
Fluoride	1,180.000	670.800

(f) Solvent Extraction Raffinate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of gallium produced by solvent extraction	
Arsenic	39.330	17.500
Lead	7.904	3.764
Zinc	27.480	11.480
Fluoride	658.700	374.500

SUBCATEGORY P - PRIMARY AND SECONDARY GERMANIUM AND GALLIUM

PSNS

(a) Still Liquor

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of germanium chlorinated	
Arsenic	131.700	58.590
Lead	26.460	12.600
Zinc	91.980	38.430
Fluoride	2,205.000	1,254.000

(b) Chlorinator Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of germanium chlorinated	
Arsenic	27.530	12.250
Lead	5.531	2.634
Zinc	19.230	8.034
Fluoride	461.000	262.100

(c) Germanium Hydrolysis Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of germanium hydrolyzed	
Arsenic	39.440	17.550
Lead	7.925	3.774
Zinc	27.550	11.510
Fluoride	660.500	375.500

SUBCATEGORY P - PSNS (cont.)

(d) Acid Wash and Rinse Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of germanium washed	
Arsenic	325.500	144.800
Lead	65.400	31.140
Zinc	227.400	94.990
Fluoride	5,450.000	3,099.000

(e) Gallium Hydrolysis Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of gallium hydrolyzed	
Arsenic	70.450	31.350
Lead	14.160	6.742
Zinc	49.220	20.560
Fluoride	1,180.000	670.800

(f) Solvent Extraction Raffinate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of gallium produced by solvent extraction	
Arsenic	39.330	17.500
Lead	7.904	3.764
Zinc	27.480	11.480
Fluoride	658.700	374.500

SUBCATEGORY Q - SECONDARY INDIUM

PSES

(a) Displacement Supernatant

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of indium metal produced	
Cadmium	2.105	0.929
Lead	2.600	1.238
Zinc	9.037	3.776
Indium	2.724	1.114

(b) Spent Electrolyte

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cathode indium produced	
Cadmium	12.170	5.370
Lead	15.040	7.160
Zinc	52.270	21.840
Indium	15.750	6.444

SUBCATEGORY Q - SECONDARY INDIUM

PSNS

(a) Displacement Supernatant

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of indium metal produced	
Cadmium	2.105	0.929
Lead	2.600	1.238
Zinc	9.037	3.776
Indium	2.724	1.114

SUBCATEGORY Q - PSNS (cont.)

(a) Spent Electrolyte

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cathode indium produced	
Cadmium	12.170	5.370
Lead	15.040	7.160
Zinc	52.270	21.840
Indium	15.750	6.444

SUBCATEGORY R - SECONDARY MERCURY

PSES

RESERVED

PSNS

(a) Spent Battery Electrolyte

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mercury produced from batteries	
Lead	0.030	0.014
Mercury	0.016	0.006

(b) Acid Wash and Rinse Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mercury washed and rinsed	
Lead	0.00056	0.00026
Mercury	0.00030	0.00012

SUBCATEGORY R - PSNS (cont.)

(c) Furnace Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mercury processed through furnace	
Lead	0.000	0.000
Mercury	0.000	0.000

SUBCATEGORY S - PRIMARY MOLYBDENUM AND RHENIUM

PSES

RESERVED

PSNS

(a) Molybdenum Sulfide Leaching

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of molybdenum sulfide leached	
Arsenic	0.644	0.287
Lead	0.130	0.060
Nickel	0.255	0.171
Selenium	0.380	0.171
Molybdenum	2.329	1.032
Ammonia (as N)	61.720	27.130
Fluoride	16.210	9.214

(b) Roaster-SO_2 Scrubber

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of molybdenum sulfide roasted	
Arsenic	2.334	1.041
Lead	0.470	0.218
Nickel	0.924	0.621
Selenium	1.377	0.621
Molybdenum	8.445	3.744
Ammonia (as N)	223.800	98.390
Fluoride	58.770	33.410

SUBCATEGORY S - PSNS (cont.)

(c) Molybdic Oxide Leachate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of molybdenum contained in molybdic oxide leached	
Arsenic	16.100	7.182
Lead	3.244	1.506
Nickel	6.371	4.286
Selenium	9.499	4.286
Molybdenum	58.270	25.830
Ammonia (as N)	1,544.000	678.800
Fluoride	405.400	230.500

(d) Hydrogen Reduction Furnace Scrubber

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of molybdenum metal powder produced	
Arsenic	3.183	1.420
Lead	0.641	0.298
Nickel	1.260	0.847
Selenium	1.878	0.847
Molybdenum	11.520	5.107
Ammonia (as N)	305.300	134.200
Fluoride	80.150	45.570

(e) Depleted Rhenium Scrubbing Solution

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of molybdenum sulfide roasted	
Arsenic	0.995	0.444
Lead	0.201	0.093
Nickel	0.394	0.265
Selenium	0.587	0.265
Molybdenum	3.601	1.597
Ammonia (as N)	95.440	41.960
Fluoride	25.060	14.250

SUBCATEGORY T - SECONDARY MOLYBDENUM AND VANADIUM

PSES

RESERVED

PSNS

(a) Leach Tailings

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of molybdenum and vanadium produced	
Antimony	17.430	7.775
Chromium	4.640	1.881
Lead	3.511	1.630
Nickel	6.897	4.640
Iron	15.050	7.649
Molybdenum	63.080	27.960
Ammonia (as N)	5,192.000	2,282.000

(b) Molybdenum Filtrate Solvent Extraction Raffinate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of molybdenum and vanadium produced	
Antimony	84.160	37.450
Chromium	22.400	9.082
Lead	16.950	7.871
Nickel	33.300	22.400
Iron	72.660	36.930
Molybdenum	304.600	135.000
Ammonia (as N)	25,070.000	11,020.000

SUBCATEGORY T - PSNS (cont.)

(c) Vanadium Decomposition Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of vanadium produced by decomposition	
Antimony	0.000	0.000
Chromium	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Iron	0.000	0.000
Molybdenum	0.000	0.000
Ammonia (as N)	0.000	0.000

(d) Molybdenum Drying Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of molybdenum produced	
Antimony	0.000	0.000
Chromium	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Iron	0.000	0.000
Molybdenum	0.000	0.000
Ammonia (as N)	0.000	0.000

SUBCATEGORY U - PRIMARY NICKEL AND COBALT

PSES

RESERVED

SUBCATEGORY U - PSNS

PSNS

(a) Raw Material Dust Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of copper, nickel,and cobalt in the crushed raw material	
Copper	0.099	0.047
Nickel	0.042	0.028
Ammonia (as N)	10.260	4.512
Cobalt	0.011	0.005

(b) Nickel Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of nickel powder washed	
Copper	0.043	0.021
Nickel	0.019	0.013
Ammonia (as N)	4.515	1.985
Cobalt	0.005	0.002

(c) Nickel Reduction Decant

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of nickel reduced	
Copper	16.250	7.744
Nickel	6.982	4.697
Ammonia (as N)	1,692.000	743.900
Cobalt	1.777	0.889

SUBCATEGORY U - PSNS (cont.)

(d) Cobalt Reduction Decant

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cobalt reduced	
Copper	27.390	13.050
Nickel	11.770	7.917
Ammonia (as N)	2,852.000	1,254.000
Cobalt	2.996	1.498

SUBCATEGORY V - SECONDARY NICKEL

PSES

(a) Slag Reclaim Tailings

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of slag input to reclaim process	
Chromium (total)	5.653	2.313
Copper	24.410	12.850
Nickel	24.670	16.320

(b) Acid Reclaim Leaching Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of acid reclaim nickel produced	
Chromium (total)	2.198	0.899
Copper	9.491	4.995
Nickel	9.590	6.344

SUBCATEGORY V - PSES (cont.)

(c) Acid Reclaim Leaching Belt Filter Backwash

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of acid reclaim nickel produced	
Chromium (total).....	0.528	0.216
Copper.....	2.278	1.199
Nickel.....	2.302	1.523

SUBCATEGORY V - SECONDARY NICKEL

PSNS

(a) Slag Reclaim Tailings

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of slag input to reclaim process	
Chromium (total).....	5.653	2.313
Copper.....	24.410	12.850
Nickel.....	24.670	16.320

(b) Acid Reclaim Leaching Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of acid reclaim nickel produced	
Chromium (total).....	2.198	0.899
Copper.....	9.491	4.995
Nickel.....	9.590	6.344

(c) Acid Reclaim Leaching Belt Filter Backwash

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of acid reclaim nickel produced	
Chromium (total).....	0.528	0.216
Copper.....	2.278	1.199
Nickel.....	2.302	1.523

SUBCATEGORY W - PRIMARY PRECIOUS METALS AND MERCURY

PSES

RESERVED

PSNS

(a) Smelter Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold and silver smelted	
Lead	0.364	0.169
Mercury	0.195	0.078
Silver	0.377	0.156
Zinc	1.326	0.546
Gold	0.130	--

(b) Silver Chloride Reduction Spent Solution

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of silver reduced in solution	
Lead	0.112	0.052
Mercury	0.060	0.024
Silver	0.116	0.048
Zinc	0.408	0.168
Gold	0.040	--

(c) Electrolytic Cells Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold refined electrolytically	
Lead	5.544	2.574
Mercury	2.970	1.188
Silver	5.742	2.376
Zinc	20.200	8.316
Gold	1.980	--

SUBCATEGORY W - PSNS (cont.)

(d) Electrolyte Preparation Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of silver in electrolyte produced	
Lead	0.014	0.007
Mercury	0.008	0.003
Silver	0.015	0.006
Zinc	0.051	0.021
Gold	0.005	--

(e) Calciner Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mercury condensed	
Lead	6.160	2.860
Mercury	3.300	1.320
Silver	6.380	2.640
Zinc	22.440	9.240
Gold	2.200	--

(f) Calcine Quench Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mercury condensed	
Lead	4.928	2.288
Mercury	2.640	1.056
Silver	5.104	2.112
Zinc	17.950	7.392
Gold	1.760	--

SUBCATEGORY W - PSNS (cont.)

(g) Calciner Stack Gas Contact Cooling Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mercury condensed	
Lead	1.162	0.540
Mercury	0.623	0.249
Silver	1.204	0.498
Zinc	4.233	1.743
Gold	0.415	--

(h) Condenser Blowdown

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mercury condensed	
Lead	3.864	1.794
Mercury	2.070	0.828
Silver	4.002	1.656
Zinc	14.080	5.656
Gold	1.380	--

(i) Mercury Cleaning Bath

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mercury condensed	
Lead	0.392	0.182
Mercury	0.210	0.084
Silver	0.406	0.168
Zinc	1.428	0.588
Gold	0.140	--

SUBCATEGORY X - SECONDARY PRECIOUS METALS

PSES

(a) Furnace Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of precious metals, including silver, incinerated or smelted	
Copper	5.760	2.745
Cyanide (total)	0.900	0.360
Zinc	4.590	1.890
Gold	0.450	--
Palladium	0.450	--
Platinum	0.450	--
Ammonia (as N)	599.900	263.500

(b) Raw Material Granulation

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of precious metals contained in the granulated raw material	
Copper	0.819	0.390
Cyanide (total)	0.128	0.051
Zinc	0.653	0.269
Gold	0.064	--
Palladium	0.064	--
Platinum	0.064	--
Ammonia (as N)	85.310	37.500

(c) Spent Plating Solutions

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/liter of spent plating solution used as a raw material	
Copper	1.280	0.610
Cyanide (total)	0.200	0.080
Zinc	1.020	0.420
Gold	0.100	--
Palladium	0.100	--
Platinum	0.100	--
Ammonia (as N)	133.300	58.600

SUBCATEGORY X - PSES (cont.)

(d) Spent Cyanide Stripping Solutions

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold produced by cyanide stripping	
Copper	4.736	2.257
Cyanide (total)	0.740	0.296
Zinc	3.774	1.554
Gold	0.370	--
Palladium	0.370	--
Platinum	0.370	--
Ammonia (as N)	480.200	216.800

(e) Refinery Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of precious metals, including silver, produced in refinery	
Copper	1.280	0.610
Cyanide (total)	0.200	0.080
Zinc	1.020	0.420
Gold	0.100	--
Palladium	0.100	--
Platinum	0.100	--
Ammonia (as N)	133.300	58.600

(f) Gold Solvent Extraction Raffinate and Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold produced by solvent extraction	
Copper	0.806	0.384
Cyanide (total)	0.126	0.050
Zinc	0.643	0.265
Gold	0.063	--
Palladium	0.063	--
Platinum	0.063	--
Ammonia (as N)	83.980	36.920

(g) Gold Spent Electrolyte

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold produced by electrolysis	
Copper	0.011	0.005
Cyanide (total)	0.002	0.001
Zinc	0.009	0.004
Gold	0.001	--
Palladium	0.001	--
Platinum	0.001	--
Ammonia (as N)	1.160	0.510

(h) Gold Precipitation and Filtration

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold precipitated	
Copper	5.632	2.684
Cyanide (total)	0.880	0.352
Zinc	4.488	1.848
Gold	0.440	--
Palladium	0.440	--
Platinum	0.440	--
Ammonia (as N)	586.500	257.800

(i) Platinum Precipitation and Filtration

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of platinum precipitated	
Copper	6.656	3.172
Cyanide (total)	1.040	0.416
Zinc	5.304	2.184
Gold	0.520	--
Palladium	0.520	--
Platinum	0.520	--
Ammonia (as N)	693.200	304.700

SUBCATEGORY X - PSES (cont.)

(j) Palladium Precipitation and Filtration

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of palladium precipitated	
Copper	4.480	2.135
Cyanide (total)	0.700	0.280
Zinc	3.570	1.470
Gold	0.350	--
Palladium	0.350	--
Platinum	0.350	--
Ammonia (as N)	466.600	205.100

(k) Other Platinum Group Metals Precipitation and Filtration

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of other platinum group metals precipitated	
Copper	6.656	3.172
Cyanide (total)	1.040	0.416
Zinc	5.304	2.184
Gold	0.520	--
Palladium	0.520	--
Platinum	0.520	--
Ammonia (as N)	693.200	304.700

(l) Spent Solutions from PGC Salt Production

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold contained in PGC product	
Copper	1.152	0.549
Cyanide (total)	0.180	0.072
Zinc	0.918	0.378
Gold	0.090	--
Palladium	0.090	--
Platinum	0.090	--
Ammonia (as N)	120.000	52.740

SUBCATEGORY X - PSES (cont.)

(m) Equipment and Floor Wash

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of precious metals, including silver, produced in refinery	
Copper	0.000	0.000
Cyanide (total)	0.000	0.000
Zinc	0.000	0.000
Gold	0.000	--
Palladium	0.000	--
Platinum	0.000	--
Ammonia (as N)	0.000	0.000

SUBCATEGORY X - SECONDARY PRECIOUS METALS

PSNS

(a) Furnace Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of precious metals, including silver, incinerated or smelted	
Copper	5.760	2.745
Cyanide (total)	0.900	0.360
Zinc	4.590	1.890
Gold	0.450	--
Palladium	0.450	--
Platinum	0.450	--
Ammonia (as N)	599.900	263.700

(b) Raw Material Granulation

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of precious metals contained in the granulated raw material	
Copper	0.819	0.390
Cyanide (total)	0.128	0.051
Zinc	0.653	0.269
Gold	0.064	--
Palladium	0.064	--
Platinum	0.064	--
Ammonia (as N)	85.310	37.500

SUBCATEGORY X - PSNS (cont.)

(c) Spent Plating Solutions

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/liter of spent plating solution used as a raw material	
Copper	1.280	0.610
Cyanide (total)	0.200	0.080
Zinc	1.020	0.420
Gold	0.100	--
Palladium	0.100	--
Platinum	0.100	--
Ammonia (as N)	133.300	58.600

(d) Spent Cyanide Stripping Solutions

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold produced by cyanide stripping	
Copper	4.736	2.257
Cyanide (total)	0.740	0.296
Zinc	3.774	1.554
Gold	0.370	--
Palladium	0.370	--
Platinum	0.370	--
Ammonia (as N)	493.200	216.800

(e) Refinery Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of precious metals, including silver, produced in refinery	
Copper	1.280	0.610
Cyanide (total)	0.200	0.080
Zinc	1.020	0.420
Gold	0.100	--
Palladium	0.100	--
Platinum	0.100	--
Ammonia (as N)	133.300	58.600

SUBCATEGORY X - PSNS (cont.)

(f) Gold Solvent Extraction Raffinate and Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold produced by solvent extraction	
Copper	0.806	0.384
Cyanide (total)	0.126	0.050
Zinc	0.643	0.265
Gold	0.630	--
Palladium	0.630	--
Platinum	0.630	--
Ammonia (as N)	83.980	36.920

(g) Gold Spent Electrolyte

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold produced by electrolysis	
Copper	0.011	0.005
Cyanide (total)	0.002	0.001
Zinc	0.009	0.004
Gold	0.001	--
Palladium	0.001	--
Platinum	0.001	--
Ammonia (as N)	1.160	0.510

(h) Gold Precipitation and Filtration

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold precipitated	
Copper	5.632	2.684
Cyanide (total)	0.880	0.352
Zinc	4.488	1.848
Gold	0.440	--
Palladium	0.440	--
Platinum	0.440	--
Ammonia (as N)	586.500	257.800

SUBCATEGORY X - PSNS (cont.)

(i) Platinum Precipitation and Filtration

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of platinum precipitated	
Copper	6.656	3.172
Cyanide (total)	1.040	0.416
Zinc	5.304	2.184
Gold	0.520	--
Palladium	0.520	--
Platinum	0.520	--
Ammonia (as N)	693.200	304.700

(j) Palladium Precipitation and Filtration

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of palladium precipitated	
Copper	4.480	2.135
Cyanide (total)	0.700	0.280
Zinc	3.570	1.470
Gold	0.350	--
Palladium	0.350	--
Platinum	0.350	--
Ammonia (as N)	466.600	205.100

(k) Other Platinum Group Metals Precipitation and Filtration

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of other platinum group metals precipitated	
Copper	6.656	3.172
Cyanide (total)	1.040	0.416
Zinc	5.304	2.184
Gold	0.520	--
Palladium	0.520	--
Platinum	0.520	--
Ammonia (as N)	693.200	304.700

SUBCATEGORY X - PSNS (cont.)

(l) Spent Solutions from PGC Salt Production

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of gold contained in PGC product	
Copper	1.152	0.549
Cyanide (total)	0.180	0.072
Zinc	0.918	0.378
Gold	0.090	--
Palladium	0.090	--
Platinum	0.090	--
Ammonia (as N)	120.000	52.740

(m) Equipment and Floor Wash

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of precious metals, including silver, produced in refinery	
Copper	0.000	0.000
Cyanide (total)	0.000	0.000
Zinc	0.000	0.000
Gold	0.000	--
Palladium	0.000	--
Platinum	0.000	--
Ammonia (as N)	0.000	0.000

SUBCATEGORY Y - PRIMARY RARE EARTH METALS

PSES

(a) Dryer Vent Water Quench and Scrubber

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mischmetal produced from wet rare earth chlorides	
Hexachlorobenzene	0.042	0.042
Chromium (total)	1.544	0.626
Lead	1.168	0.542
Nickel	2.295	1.544

SUBCATEGORY Y - PSES (cont.)

(b) Dryer Vent Caustic Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mischmetal produced from wet rare earth chlorides	
Hexachlorobenzene.....	0.007	0.007
Chromium (total).....	0.272	0.110
Lead.....	0.206	0.095
Nickel.....	0.404	0.272

(c) Electrolytic Cell Water Quench and Scrubber

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of total mischmetal produced	
Hexachlorobenzene.....	0.094	0.094
Chromium (total).....	3.474	1.409
Lead.....	2.629	1.221
Nickel.....	5.165	3.474

(d) Electrolytic Cell Caustic Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mischmetal produced	
Hexachlorobenzene.....	0.000	0.000
Chromium (total).....	0.000	0.000
Lead.....	0.000	0.000
Nickel.....	0.000	0.000

(e) Sodium Hypochlorite Filter Backwash

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of total mischmetal produced	
Hexachlorobenzene.....	0.004	0.004
Chromium (total).....	0.134	0.054
Lead.....	0.101	0.047
Nickel.....	0.199	0.134

SUBCATEGORY Y - PRIMARY RARE EARTH METALS

PSNS

(a) Dryer Vent Water Quench and Scrubber

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mischmetal produced from wet rare earth chlorides	
Hexachlorobenzene.....	0.042	0.042
Chromium (total).....	1.544	0.626
Lead.....	1.168	0.542
Nickel.....	2.295	1.544

(b) Dryer Vent Caustic Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mischmetal produced from wet rare earth chlorides	
Hexachlorobenzene.....	0.007	0.007
Chromium (total).....	0.272	0.110
Lead.....	0.206	0.095
Nickel.....	0.404	0.272

(c) Electrolytic Cell Water Quench and Scrubber

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of total mischmetal produced	
Hexachlorobenzene.....	0.094	0.094
Chromium (total).....	3.474	1.409
Lead.....	2.629	1.221
Nickel.....	5.165	3.474

SUBCATEGORY Y - PSNS (cont.)

(d) Electrolytic Cell Caustic Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of mischmetal produced	
Hexachlorobenzene.....	0.000	0.000
Chromium (total).....	0.000	0.000
Lead.....	0.000	0.000
Nickel.....	0.000	0.000

(e) Sodium Hypochlorite Filter Backwash

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of total mischmetal produced	
Hexachlorobenzene.....	0.004	0.004
Chromium (total).....	0.134	0.054
Lead.....	0.101	0.047
Nickel.....	0.199	0.134

SUBCATEGORY Z - SECONDARY TANTALUM

PSES

RESERVED

PSNS

(a) Tantalum Alloy Leach and Rinse

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tantalum powder produced	
Copper.....	295.200	140.700
Lead.....	64.570	29.980
Nickel.....	126.800	85.320
Zinc.....	235.200	96.850
Tantalum.....	103.800	--

SUBCATEGORY Z - PSNS (cont.)

(b) Capacitor Leach and Rinse

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tantalum powder produced from leaching	
Copper	25.860	12.320
Lead	5.656	2.626
Nickel	11.110	7.474
Zinc	20.600	8.484
Tantalum	9.090	--

(c) Tantalum Sludge Leach and Rinse

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of equivalent pure tantalum powder produced	
Copper	262.800	125.200
Lead	57.480	26.690
Nickel	112.900	75.960
Zinc	209.400	86.230
Tantalum	92.390	--

(d) Tantalum Powder Acid Wash and Rinse

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tantalum powder produced	
Copper	0.448	0.214
Lead	0.098	0.046
Nickel	0.193	0.130
Zinc	0.357	0.147
Tantalum	0.158	--

SUBCATEGORY Z - PSNS (cont.)

(e) Leaching Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of equivalent pure tantalum powder produced	
Copper	6.246	2.977
Lead	1.366	0.634
Nickel	2.684	1.806
Zinc	4.978	2.050
Tantalum	2.196	--

SUBCATEGORY AA - SECONDARY TIN

PSES

(a) Tin Smelter SO_2 Scrubber

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of crude tapped tin produced	
Arsenic	12.790	5.703
Lead	2.575	1.196
Iron	11.040	5.611
Tin	3.495	2.204

(b) Dealuminizing Rinse

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of dealuminized scrap produced	
Lead	0.010	0.005
Cyanide (total)	0.007	0.003
Fluoride	1.225	0.697
Tin	0.013	0.008

SUBCATEGORY AA - PSES (cont.)

(c) Tin Mud Acid Neutralization Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of neutralized dewatered tin mud produced	
Lead	1.413	0.656
Cyanide (total)	1.009	0.404
Fluoride	176.600	100.400
Tin	1.918	1.110

(d) Tin Hydroxide Wash

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tin hydroxide washed	
Lead	3.347	1.554
Cyanide (total)	2.391	0.956
Fluoride	418.400	237.900
Tin	4.542	2.630

(e) Spent Electrowinning Solution from New Scrap

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cathode tin produced	
Lead	4.704	2.184
Cyanide (total)	3.360	1.344
Fluoride	588.000	334.300
Tin	6.384	3.696

(f) Spent Electrowinning Solution from Municipal Solid Waste

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of MSW scrap used as raw material	
Lead	0.033	0.015
Cyanide (total)	0.024	0.010
Fluoride	4.165	2.368
Tin	0.045	0.026

SUBCATEGORY AA - PSES (cont.)

(g) Tin Hydroxide Supernatant from Scrap

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tin metal recovered from scrap	
Lead	15.580	7.233
Cyanide (total)	11.130	4.451
Fluoride	1,947.000	1,107.000
Tin	21.140	12.240

(h) Tin Hydroxide Supernatant from Plating Solutions and Sludges

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tin metal recovered from plating solutions and sludges	
Lead	32.200	14.950
Cyanide (total)	23.000	9.200
Fluoride	4,025.000	2,289.000
Tin	43.700	25.300

(i) Tin Hydroxide Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tin metal produced	
Lead	7.012	3.256
Cyanide (total)	5.009	2.004
Fluoride	876.500	498.400
Tin	9.517	5.510

SUBCATEGORY AA - SECONDARY TIN

PSNS

(a) Tin Smelter SO_2 Scrubber

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of crude tapped tin produced	
Arsenic	12.790	5.703
Lead	2.575	1.196
Iron	11.040	5.611
Tin	3.495	2.204

(b) Dealuminizing Rinse

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of dealuminized scrap produced	
Lead	0.010	0.005
Cyanide (total)	0.007	0.003
Fluoride	1.225	0.697
Tin	0.013	0.008

(c) Tin Mud Acid Neutralization Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of neutralized dewatered tin mud produced	
Lead	1.413	0.656
Cyanide (total)	1.009	0.404
Fluoride	176.600	100.400
Tin	1.918	1.110

SUBCATEGORY AA - PSNS (cont.)

(d) Tin Hydroxide Wash

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tin hydroxide washed	
Lead	3.347	1.554
Cyanide (total)	2.391	0.956
Fluoride	418.400	237.900
Tin	4.542	2.630

(e) Spent Electrowinning Solution from New Scrap

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cathode tin produced	
Lead	4.704	2.184
Cyanide (total)	3.360	1.344
Fluoride	588.000	334.300
Tin	6.384	3.696

(f) Spent Electrowinning Solution from Municipal Solid Waste

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of MSW scrap used as raw material	
Lead	0.033	0.015
Cyanide (total)	0.024	0.010
Fluoride	4.165	2.368
Tin	0.045	0.026

(g) Tin Hydroxide Supernatant from Scrap

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tin metal recovered from scrap	
Lead	15.580	7.233
Cyanide (total)	11.130	4.451
Fluoride	1,947.000	1,107.000
Tin	21.140	12.240

SUBCATEGORY AA - PSNS (cont.)

(h) Tin Hydroxide Supernatant from Plating Solutions and Sludges

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tin metal recovered from plating solutions and sludges	
Lead	32.200	14.950
Cyanide (total)	23.000	9.200
Fluoride	4,025.000	2,289.000
Tin	43.700	25.300

(i) Tin Hydroxide Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tin metal produced	
Lead	7.012	3.256
Cyanide (total)	5.009	2.004
Fluoride	876.500	498.400
Tin	9.517	5.510

SUBCATEGORY AB - PRIMARY AND SECONDARY TITANIUM

Facilities which only practice vacuum distillation for sponge purification and which do not practice electrolytic recovery of magnesium are exempt from pretreatment regulations. The regulations applicable to all other primary and secondary titanium facilities are provided below.

PSES

(a) Chlorination Off-Gas Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of $TiCl_4$ produced	
Chromium (total)	0.346	0.140
Lead	0.262	0.122
Nickel	0.515	0.346
Titanium	0.496	0.215

SUBCATEGORY AB - PSES (cont.)

(b) Chlorination Area-Vent Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of $TiCl_4$ produced	
Chromium (total).....	0.385	0.156
Lead.....	0.291	0.135
Nickel.....	0.572	0.385
Titanium.....	0.551	0.239

(c) $TiCl_4$ Handling Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of $TiCl_4$ produced	
Chromium (total).....	0.069	0.028
Lead.....	0.052	0.024
Nickel.....	0.103	0.069
Titanium.....	0.099	0.043

(d) Reduction Area Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	1.528	0.620
Lead.....	1.156	0.537
Nickel.....	2.272	1.528
Titanium.....	2.189	0.950

(e) Melt Cell Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	0.787	0.319
Lead.....	0.595	0.276
Nickel.....	1.169	0.787
Titanium.....	1.127	0.489

SUBCATEGORY AB - PSES (cont.)

(f) Chlorine Liquefaction Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	11.010	4.463
Lead.....	8.332	3.868
Nickel.....	16.370	11.010
Titanium.....	15.770	6.844

(g) Sodium Reduction Container Reconditioning Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	0.474	0.192
Lead.....	0.359	0.167
Nickel.....	0.705	0.474
Titanium.....	0.679	0.295

(h) Chip Crushing Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	0.848	0.344
Lead.....	0.642	0.298
Nickel.....	1.261	0.848
Titanium.....	1.215	0.527

(i) Acid Leachate and Rinse Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	4.381	1.776
Lead.....	3.315	1.539
Nickel.....	6.512	4.381
Titanium.....	6.275	2.723

SUBCATEGORY AB - PSES (cont.)

(j) Sponge Crushing and Screening Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	0.239	0.097
Lead.....	0.181	0.084
Nickel.....	0.356	0.239
Titanium.....	0.343	0.149

(k) Acid Pickle and Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	0.023	0.009
Lead.....	0.017	0.008
Nickel.....	0.034	0.023
Titanium.....	0.032	0.014

(l) Scrap Milling Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of scrap milled	
Chromium (total).....	0.084	0.034
Lead.....	0.064	0.030
Nickel.....	0.125	0.084
Titanium.....	0.120	0.052

(m) Scrap Detergent Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of scrap washed	
Chromium (total).....	6.684	2.710
Lead.....	5.058	2.348
Nickel.....	9.935	6.684
Titanium.....	9.574	4.155

SUBCATEGORY AB - PSES (cont.)

(n) Casting Crucible Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium cast	
Chromium (total).....	0.176	0.072
Lead.....	0.134	0.062
Nickel.....	0.262	0.176
Titanium.....	0.253	0.110

(o) Casting Contact Cooling Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium cast	
Chromium (total).....	27.000	10.950
Lead.....	20.430	9.486
Nickel.....	40.140	27.000
Titanium.....	38.680	16.780

SUBCATEGORY AB - PRIMARY AND SECONDARY TITANIUM

PSNS

(a) Chlorination Off-Gas Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of $TiCl_4$ produced	
Chromium (total).....	0.346	0.140
Lead.....	0.262	0.122
Nickel.....	0.515	0.346
Titanium.....	0.496	0.215

SUBCATEGORY AB - PSNS (cont.)

(b) Chlorination Area-Vent Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of $TiCl_4$ produced	
Chromium (total).....	0.385	0.156
Lead.....	0.291	0.135
Nickel.....	0.572	0.385
Titanium.....	0.551	0.239

(c) $TiCl_4$ Handling Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of $TiCl_4$ produced	
Chromium (total).....	0.069	0.028
Lead.....	0.052	0.024
Nickel.....	0.103	0.069
Titanium.....	0.099	0.043

(d) Reduction Area Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	1.528	0.620
Lead.....	1.156	0.537
Nickel.....	2.272	1.528
Titanium.....	2.189	0.950

(e) Melt Cell Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	0.787	0.319
Lead.....	0.595	0.276
Nickel.....	1.169	0.787
Titanium.....	1.127	0.489

SUBCATEGORY AB - PSNS (cont.)

(f) Chlorine Liquefaction Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	0.000	0.000
Lead.....	0.000	0.000
Nickel.....	0.000	0.000
Titanium.....	0.000	0.000

(g) Sodium Reduction Container Reconditioning Wash

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	0.474	0.192
Lead.....	0.359	0.167
Nickel.....	0.705	0.474
Titanium.....	0.679	0.295

(h) Chip Crushing Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	0.000	0.000
Lead.....	0.000	0.000
Nickel.....	0.000	0.000
Titanium.....	0.000	0.000

(i) Acid Leachate and Rinse Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	4.381	1.776
Lead.....	3.315	1.539
Nickel.....	6.512	4.381
Titanium.....	6.275	2.723

SUBCATEGORY AB - PSNS (cont.)

(j) Sponge Crushing and Screening Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium produced	
Chromium (total).....	0.000	0.000
Lead.....	0.000	0.000
Nickel.....	0.000	0.000
Titanium.....	0.000	0.000

(k) Acid Pickle and Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium pickled	
Chromium (total).....	0.023	0.009
Lead.....	0.017	0.008
Nickel.....	0.034	0.023
Titanium.....	0.032	0.014

(l) Scrap Milling Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of scrap milled	
Chromium (total).....	0.000	0.000
Lead.....	0.000	0.000
Nickel.....	0.000	0.000
Titanium.....	0.000	0.000

(m) Scrap Detergent Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of scrap washed	
Chromium (total).....	6.684	2.710
Lead.....	5.058	2.348
Nickel.....	9.935	6.684
Titanium.....	9.574	4.155

SUBCATEGORY AB - PSNS (cont.)

(n) Casting Crucible Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium cast	
Chromium (total).....	0.176	0.072
Lead.....	0.134	0.062
Nickel.....	0.262	0.176
Titanium.....	0.253	0.110

(o) Casting Contact Cooling Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of titanium cast	
Chromium (total).....	27.000	10.950
Lead.....	20.430	9.486
Nickel.....	40.140	27.000
Titanium.....	38.680	16.780

SUBCATEGORY AC - SECONDARY TUNGSTEN AND COBALT

PSES

(a) Tungsten Detergent Wash and Rinse

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tungsten scrap washed	
Copper.....	0.250	0.119
Nickel.....	0.107	0.072
Ammonia (as N).....	25.990	11.430
Cobalt.....	0.027	0.014
Tungsten.....	0.679	0.302

SUBCATEGORY AC - PSES (cont.)

(b) Tungsten Leaching Acid

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tungsten produced	
Copper	3.291	1.569
Nickel	1.414	0.951
Ammonia (as N)	342.700	150.700
Cobalt	0.360	0.180
Tungsten	8.947	3.985

(c) Tungsten Post-Leaching Wash and Rinse

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tungsten produced	
Copper	6.583	3.137
Nickel	2.829	1.903
Ammonia (as N)	685.600	301.400
Cobalt	0.720	0.360
Tungsten	17.900	7.792

(d) Synthetic Scheelite Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of synthetic scheelite produced	
Copper	21.330	10.170
Nickel	9.164	6.165
Ammonia (as N)	2,221.000	976.300
Cobalt	2.333	1.166
Tungsten	57.980	25.820

SUBCATEGORY AC - PSES (cont.)

(e) Tungsten Carbide Leaching Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tungsten carbide scrap leached	
Copper	2.241	1.068
Nickel	0.963	0.648
Ammonia (as N)	233.400	102.600
Cobalt	0.245	0.123
Tungsten	6.093	2.714

(f) Tungsten Carbide Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tungsten carbide produced	
Copper	10.670	5.083
Nickel	4.583	3.083
Ammonia (as N)	1,111.000	488.300
Cobalt	1.167	0.583
Tungsten	29.00	12.920

(g) Cobalt Sludge Leaching Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cobalt produced from cobalt sludge	
Copper	45.800	21.830
Nickel	19.680	13.240
Ammonia (as N)	4,770.000	2,097.000
Cobalt	5.010	2.510
Tungsten	124.500	55.460

SUBCATEGORY AC - PSES (cont.)

(h) Crystallization Decant

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cobalt produced	
Copper	53.310	25.410
Nickel	22.910	15.410
Ammonia (as N)	5,552.000	2,441.000
Cobalt	5.831	2.916
Tungsten	144.900	64.560

(i) Acid Wash Decant

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cobalt produced	
Copper	24.400	11.630
Nickel	10.490	7.053
Ammonia (as N)	2,541.000	1,117.000
Cobalt	2.669	1.335
Tungsten	66.340	29.550

(j) Cobalt Hydroxide Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cobalt produced	
Copper	72.510	34.560
Nickel	31.160	20.960
Ammonia (as N)	7,551.000	3,320.000
Cobalt	7.931	3.965
Tungsten	197.100	87.800

SUBCATEGORY AC - PSES (cont.)

(k) Cobalt Hydroxide Filter Cake

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cobalt produced	
Copper	139.600	66.510
Nickel	59.970	40.340
Ammonia (as N)	14,530.000	6,389.000
Cobalt	15.270	7.633
Tungsten	379.400	169.000

SUBCATEGORY AC - SECONDARY TUNGSTEN AND COBALT

PSNS

(a) Tungsten Detergent Wash and Rinse

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tungsten scrap washed	
Copper	0.250	0.119
Nickel	0.107	0.072
Ammonia (as N)	25.990	11.430
Cobalt	0.027	0.014
Tungsten	0.679	0.302

(b) Tungsten Leaching Acid

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tungsten produced	
Copper	3.291	1.569
Nickel	1.414	0.951
Ammonia (as N)	342.700	150.700
Cobalt	0.360	0.180
Tungsten	8.947	3.985

SUBCATEGORY AC - PSNS (cont.)

(c) Tungsten Post-Leaching Wash and Rinse

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tungsten produced	
Copper	6.583	3.137
Nickel	2.829	1.903
Ammonia (as N)	685.600	301.400
Cobalt	0.720	0.360
Tungsten	17.900	7.792

(d) Synthetic Scheelite Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million) of synthetic scheelite produced	
Copper	21.330	10.170
Nickel	9.164	6.165
Ammonia (as N)	2,221.000	976.300
Cobalt	2.333	1.166
Tungsten	57.980	25.820

(e) Tungsten Carbide Leaching Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tungsten carbide scrap leached	
Copper	2.241	1.068
Nickel	0.963	0.648
Ammonia (as N)	233.400	102.600
Cobalt	0.245	0.123
Tungsten	6.093	2.714

SUBCATEGORY AC - PSNS (cont.)

(f) Tungsten Carbide Wash Water

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of tungsten carbide produced	
Copper	10.670	5.083
Nickel	4.583	3.083
Ammonia (as N)	1,111.000	488.300
Cobalt	1.167	0.583
Tungsten	29.00	12.920

(g) Cobalt Sludge Leaching Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cobalt produced from cobalt sludge	
Copper	45.800	21.830
Nickel	19.680	13.240
Ammonia (as N)	4,770.000	2,097.000
Cobalt	5.010	2.510
Tungsten	124.500	55.460

(h) Crystallization Decant

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cobalt produced	
Copper	53.310	25.410
Nickel	22.910	15.410
Ammonia (as N)	5,552.000	2,441.000
Cobalt	5.831	2.916
Tungsten	144.900	64.560

SUBCATEGORY AC - PSNS (cont.)

(i) Acid Wash Decant

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cobalt produced	
Copper	24.400	11.630
Nickel	10.490	7.053
Ammonia (as N)	2,541.000	1,117.000
Cobalt	2.669	1.335
Tungsten	66.340	29.550

(j) Cobalt Hydroxide Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cobalt produced	
Copper	72.510	34.560
Nickel	31.160	20.960
Ammonia (as N)	7,551.000	3,320.000
Cobalt	7.931	3.965
Tungsten	197.100	87.800

(k) Cobalt Hydroxide Filter Cake

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of cobalt produced	
Copper	139.600	66.510
Nickel	59.970	40.340
Ammonia (as N)	14,530.000	6,389.000
Cobalt	15.270	7.633
Tungsten	379.400	169.000

SUBCATEGORY AD - SECONDARY URANIUM

PSES

RESERVED

PSNS

(a) Refinery Sump Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium (total).....	27.14	11.00
Copper.....	93.88	44.74
Nickel.....	40.34	27.14
Fluoride.....	2,567.00	1,459.00

(b) Slag Leach Reslurry

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium (total).....	1.689	0.685
Copper.....	5.844	2.765
Nickel.....	2.511	1.689
Fluoride.....	159.800	90.860

(c) Solvent Extraction Raffinate Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium (total).....	2.357	0.955
Copper.....	8.152	3.885
Nickel.....	3.503	2.357
Fluoride.....	222.900	126.700

SUBCATEGORY AD - PSNS (cont.)

(d) Digestion Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of uranium processed in the refinery	
Chromium (total).....	0.000	0.000
Copper.....	0.000	0.000
Nickel.....	0.000	0.000
Fluoride.....	0.000	0.000

(e) Evaporation and Denitration Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum forr monthly average
	mg/kg (pounds per million pounds) of uranium trioxide produced	
Chromium (total).....	0.000	0.000
Copper.....	0.000	0.000
Nickel.....	0.000	0.000
Fluoride.....	0.000	0.000

(f) Hydrofluorination Alkaline Scrubber

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of uranium tetrafluoride produced	
Chromium (total).....	0.007	0.003
Copper.....	0.026	0.012
Nickel.....	0.011	0.007
Fluoride.....	0.700	0.398

(g) Hydrofluorination Water Scrubber

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of uranium tetrafluoride produced	
Chromium (total).....	0.000	0.000
Copper.....	0.000	0.000
Nickel.....	0.000	0.000
Fluoride.....	0.000	0.000

SUBCATEGORY AD - PSNS (cont.)

(h) Magnesium Reduction and Casting Floor Wash

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of uranium trixoide produced	
Chromium (total).....	0.011	0.005
Copper.....	0.039	0.018
Nickel.....	0.017	0.011
Fluoride.....	1.054	0.599

(i) Laundry Wastewater

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of uranium produced by magnesium reduction	
Chromium (total).....	0.036	0.014
Copper.....	0.123	0.059
Nickel.....	0.053	0.036
Fluoride.....	3.360	1.910

SUBCATEGORY AE - PRIMARY ZIRCONIUM AND HAFNIUM

There are two levels of PSES and PSNS provisions for this subpart. Facilities which only produce zirconium or zirconium/nickel alloys by magnesium reduction of zirconium dioxide are exempt from pretreatment regulations. Regulations for all other facilities are as follows.

PSES

RESERVED

PSNS

(a) Sand Drying Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total).....	0.210	0.085
Cyanide (total).....	0.114	0.045
Lead.....	0.159	0.074
Nickel.....	0.312	0.210
Ammonia (as N).....	75.710	33.280

SUBCATEGORY AE - PSNS (cont.)

(b) Sand Chlorination Off-Gas Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total).....	16.080	6.521
Cyanide (total).....	8.690	3.478
Lead.....	12.170	5.651
Nickel.....	23.910	16.080
Ammonia (as N).....	5,795.000	2,547.000

(c) Sand Chlorination Area-Vent Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total).....	3.154	1.279
Cyanide (total).....	1.705	0.682
Lead.....	2.387	1.108
Nickel.....	4.688	3.154
Ammonia (as N).....	1,136.000	499.500

(d) $SiCl_4$ Purification Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total).....	2.774	1.125
Cyanide (total).....	1.500	0.600
Lead.....	2.099	0.975
Nickel.....	4.124	2.774
Ammonia (as N).....	999.500	439.400

SUBCATEGORY AE - PSNS (cont.)

(e) Feed Makeup Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total).....	2.103	0.852
Cyanide (total).....	1.137	0.455
Lead.....	1.591	0.739
Nickel.....	3.126	2.103
Ammonia (as N).....	575.500	333.000

(f) Iron Extraction (MIBK) Steam Stripper Bottoms

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total).....	0.830	0.337
Cyanide (total).....	0.449	0.180
Lead.....	0.628	0.292
Nickel.....	1.234	0.830
Ammonia (as N).....	299.100	131.500

(g) Zirconium Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total).....	14.350	5.819
Cyanide (total).....	7.758	3.103
Lead.....	10.860	5.043
Nickel.....	21.340	14.350
Ammonia (as N).....	5,171.000	2,273.000

SUBCATEGORY AE - PSNS (cont.)

(h) Hafnium Filtrate

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total).....	0.000	0.000
Cyanide (total).....	0.000	0.000
Lead.....	0.000	0.000
Nickel.....	0.000	0.000
Ammonia (as N).....	0.000	0.000

(i) Calcining Caustic Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total).....	3.329	1.350
Cyanide (total).....	1.799	0.720
Lead.....	2.519	1.170
Nickel.....	4.948	3.329
Ammonia (as N).....	1,199.000	527.200

(j) Pure Chlorination Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium and hafnium produced	
Chromium (total).....	14.180	5.748
Cyanide (total).....	7.663	3.065
Lead.....	10.730	4.981
Nickel.....	21.007	14.180
Ammonia (as N).....	5,108.000	2,245.000

SUBCATEGORY AE - PSNS (cont.)

(k) Reduction Area-Vent Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium and hafnium produced	
Chromium (total).....	1.364	0.553
Cyanide (total).....	0.737	0.295
Lead.....	1.032	0.479
Nickel.....	2.207	1.364
Ammonia (as N).....	491.300	216.000

(l) Magnesium Recovery Off-Gas Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium and hafnium produced	
Chromium (total).....	7.671	3.110
Cyanide (total).....	4.147	1.659
Lead.....	5.805	2.695
Nickel.....	11.400	7.671
Ammonia (as N).....	2,764.000	1,215.000

(m) Magnesium Recovery Area-Vent Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium and hafnium produced	
Chromium (total).....	4.262	1.728
Cyanide (total).....	2.304	0.921
Lead.....	3.225	1.497
Nickel.....	6.335	4.262
Ammonia (as N).....	1,535.000	675.000

SUBCATEGORY AE - PSNS (cont.)

(n) Zirconium Chip Crushing Wet Air Pollution Control

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium and hafnium produced	
Chromium (total).....	0.000	0.000
Cyanide (total).....	0.000	0.000
Lead.....	0.000	0.000
Nickel.....	0.000	0.000
Ammonia (as N).....	0.000	0.000

(o) Acid Leachate from Zirconium Metal Production

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of pure zirconium produced	
Chromium (total).....	10.900	4.420
Cyanide (total).....	5.893	2.357
Lead.....	8.250	3.831
Nickel.....	16.210	10.900
Ammonia (as N).....	3,928.000	1,674.000

(p) Acid Leachate from Zirconium Alloy Production

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium contained in alloys produced	
Chromium (total).....	5.835	2.366
Cyanide (total).....	3.154	1.262
Lead.....	4.416	2.050
Nickel.....	8.674	5.835
Ammonia (as N).....	2,102.000	895.800

SUBCATEGORY AE - PSNS (cont.)

(q) Leaching Rinse Water from Zirconium Metal Production

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of pure zirconium produced	
Chromium (total).....	21.810	8.840
Cyanide (total).....	11.790	4.715
Lead.....	16.500	7.661
Nickel.....	32.410	21.810
Ammonia (as N).....	7,856.000	3,453.000

(r) Leaching Rinse Water from Zirconium Alloy Production

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium contained in alloys produced	
Chromium (total).....	0.292	0.118
Cyanide (total).....	0.158	0.063
Lead.....	0.221	0.103
Nickel.....	0.434	0.292
Ammonia (as N).....	105.200	46.240

40 CFR PART 440

ORE MINING AND DRESSING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms in the Ore Mining and Dressing industrial category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards. The Ore Mining and Dressing category was established by the Environmental Protection Agency under Part 440 of Title 40 of the Code of Federal Regulations (40 CFR 440). No pretreatment standards were established for this industrial category. EPA knows of no existing facilities that discharge to POTWs and does not expect that any new sources will do so. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	June 14, 1982	Vol. 47, p. 25682
Final Rule	December 3, 1982	Vol. 47, p. 54598

APPLICABLE DATES

Effective Date:	January 17, 1983
Compliance Dates:	--

40 CFR PARTS 414 and 416

ORGANIC CHEMICALS, PLASTICS AND SYNTHETIC FIBERS

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms subject to the Organic Chemicals, Plastics and Synthetic Fibers (OCPSF) categorical standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Organic Chemicals, Plastics and Synthetic Fibers standards were established by the Environmental Protection Agency under Parts 414 and 416 of Title 40 of the Code of Federal Regulations (40 CFR Parts 414 and 416). This summary is not intended to substitute the regulations published in the Code of Federal Regulations or in the Federal Register. For specific information on the Organic Chemicals, Plastics and Synthetic Fibers regulation, refer to the Federal Register citations below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	March 21, 1983	Vol. 48, p. 11828
Notice of Availability Request for Comments	July 17, 1985	Vol. 50, p. 29068
Extension of Comment Period, Correction Notice, Notice of Availability	October 11, 1985	Vol. 50, p. 41528
Notice of Availability, Request for Comments	December 8, 1986	Vol. 51, p. 44082
Final Rule	November 5, 1987	Vol. 52, p. 52422

APPLICABLE DATES

Effective Date: December 21, 1987

Baseline Monitoring Due Date: June 20, 1988

Compliance Dates:
- Pretreatment Standards for Existing Sources (PSES): November 5, 1990
- Pretreatment Standards for New Sources (PSNS)*: From commencement of discharge.

* Organic Chemicals, Plastics and Synthetic Fibers new sources are industrial facilities that began construction of the regulated process(es) after December 8, 1986, the publicaton date of the last notice of availability.

SUBCATEGORIES AND SIC CODES

The Organic Chemicals, Plastics and Synthetic Fibers category is divided into nine industrial segments or subcategories, based upon general types of products manufactured. Pretreatment standards are applicable only for the first seven of the nine subcategories. Subcategories I or J pertain to direct dischargers only.

Subcategory B - Rayon Fibers
Subcategory C - Other Fibers
Subcategory D - Thermoplastic Resins
Subcategory E - Thermosetting Resins
Subcategory F - Commodity Organic Chemicals
Subcategory G - Bulk Organic Chemicals
Subcategory H - Specialty Organic Chemicals
Subcategory I - Direct Discharge Point Sources that use End-of-Pipe Biological Treatment
Subcategory J - Direct Discharge Point Sources that do not use End-of-Pipe Biological Treatment

As set forth in the applicability section of the regulation (40 CFR 414.11), the Organic Chemicals, Plastics and Synthetic Fibers regulation applies to process wastewaters from industrial establishments that manufacture products or product groups which are included (and have been reported to the Bureau of Census) within the following Standard Industrial Classification (SIC) major groups:

(1) SIC 2821 - Plastic Materials, Synthetic Resins and Nonvulcanizable Elastomers

(2) SIC 2823 - Cellulosic Man-Made Fibers

(3) SIC 2824 - Synthetic Organic Fibers, Except Cellulosic

(4) SIC 2865 - Cyclic Crudes and Intermediates, Dyes, and Organic Pigments

(5) SIC 2869 - Industrial Organic Chemicals, Not Elsewhere Classified

As also stated in that section, the provisions of the Organic Chemicals, Plastics and Sythetic Fibers regulation do not apply to industrial establishments that manufacture products which are included and have historically been reported in the following SIC subgroups (and have not been reported within the above SIC groups):

(1) SIC 2843085 - Bulk Surface Active Agents

(2) SIC 28914 - Synthetic Resin and Rubber Adhesives

(3) Chemicals and Chemical Preparations, Not Elsewhere Classified

(a) SIC 2899568 - Sizes, all types

(b) SIC 2899597 - Other Industrial Chemical Specialties, Including Fluxes, Plastic Wood Preparations, and Embalming Fluids

(4) SIC 2911058 - Aromatic Hydrocarbons Manufactured From Purchased Refinery Products

(5) SIC 2911632 - Aliphatic Hydrocarbons Manufactured from Purchased Refinery products

As explained in the preamble to the regulation, SIC codes are classifications of industrial and commercial establishments which are used primarily for the collection of economic data. Although EPA proposed to define the applicability of the regulation both by SIC codes and by specific products or product groups so as to extend the coverage of the regulation to encompass Organic Chemicals, Plastics and Synthetic Fibers manufacturing processes which were not reported under the first five SIC major groups, it was determined that technical, cost and economic impact data collection efforts focused only on those five product groups and sufficient data had not been gathered to support regulation of facilities reporting information under the latter SIC codes. It was recommended, however, that Best Professional Judgement (BPJ) or case-by-case permit limits be established for industrial facilities reporting under non-Organic Chemical, Plastics and Synthetic Fibers SIC codes because manufacturing processes employed by those faciliites may be essentially identical to those used by regulated facilities and because toxic pollutants may also be discharged by these facilities.

HISTORY OF ORCANIC CHEMICAL, PLASTICS AND SYNTHETIC FIBERS REGULATIONS

Prior to the regulation promulated on November 5, 1987, EPA had established effluent guidelines and standards for the manufacture of Organic Chemicals, Plastics and Synthetic Fibers in four previous regulations, as summarized below.

- Organic Chemicals Manufacturing Industry regulations
  - Phase I, promulgated on April 25, 1974 (39 FR 14676), regulated 40 product/processes*, but was remanded to EPA on February 10, 1976.
  - Phase II, promulgated on January 5, 1976 (41 FR 902), covered 27 additional product/processes, but was withdrawn by EPA on April 1, 1976 (41 FR 13936)
- Plastics and Synthetic Fibers Industry regulations
  - Phase I, promulgated on April 5, 1974 (39 FR 12502), regulated 31 product/processes but was withdrawn on August 4, 1976 (41 FR 32587)
  - Phase II, promulgated on January 23, 1975 (40 FR 3716), regulated eight additional product/processes but was also withdrawn by EPA on August 4, 1976 (41 FR 32587).

* "Product/processes" is used by EPA to mean different variations of the same basic process used to manufacture different products as well as using different processes to manufacture the same product (52 FR 42523).

Thereafter, EPA proposed pretreatment standards on March 31, 1983 (48 FR 11828) which called for regulation of 15 toxic organic pollutants and two toxic metals in non-plastic subcategories, and two toxic organic pollutants; one metal and cyanide in the "plastics-only" subcategory. Comments were solicited on the proposed regulations, on unresolved issues and on changes to the proposed standards, and on additional data provided in three notices of availability as listed previously in the summary of Federal Register citations section. The final rule reflects changes made in response to comments received and data collected during the proposal and comment periods.

REGULATED POLLUTANTS

The Organic Chemicals, Plastics and Synthetic Fibers (OCPSF) regulation establishes pretreatment standards for 47 priority pollutants including 44 organic priority pollutants, two toxic metals and cyanide. The pretreatment standards established for existing sources (PSES) and for new sources (PSNS) are the same for all seven subcategories, and therefore, have been listed only once in this summary. However, the applicability sections of each subcategory have been included for purposes of classifying Organic Chemicals, Plastics and Synthetic Fibers facilities by subcategory. For a listing of the pretreatment standards for Subcategories B-H please see Table 1 of this summary.

SPECIAL CONSIDERATIONS

As discussed previously, the applicability of Organic Chemical, Plastics and Synthethic Fiber (OCPSF) standards is based primarily on products which are manufactured and reported under five specific SIC codes; 2821, 2823, 2824, 2865, and 2869. The OCPSF regulation covers OCPSF products/processes where OCPSF operations are conducted as primary manufacturing activities or are conducted ancillary to primary production activities.

The OCPSF regulation does not apply:

- To OCPSF production operations or product/processes which have historically been reported to the Bureau of Census under non-OCPSF SIC subgroups or codes, even if the operations or products could have been reported under one or more of the five regulated SIC major groups.

- To process wastewater discharges from the manufacture of organic chemical compounds solely by extraction from plant and animal raw materials or by fermentation processes

- To discharges from OCPSF product/process operations which are covered by provisions of other categorical standards if the wastewaters from OCPSF operations are treated in combination with non-OCPSF regulated wastewaters (i.e. if OCPSF-regulated wastewaters are combined for treatment with other categorical-regulated wastewaters).

  However, the OCPSF regulation does apply to OCPSF product/processes covered by this regulation if the facility reports OCPSF products under SIC codes 2821, 2865 or 2869 and its OCPSF wastewaters are treated by a separate treatment system at that facility or are discharged separately to a POTW.

In addition, the OCPSF regulation applies:

- To plastics molding and forming processes when plastic resin manufacturers mold or form (e.g., extrude and pellitize) crude intermediate plastic material for shipment off-site
- To the extrusion of fibers.

Plastics molding and forming processes other than those described above are regulated by the Plastics Molding and Forming pretreatment standards (40 CFR Part 463).

In response to public comments, EPA clarified the applicability of the OCPSF regulation to research and development facilities. Stand-alone OCPSF research and development, pilot plant, technical service, and laboratory bench scale operations are not covered by the OCPSF regulation. However, wastewaters from the above operations, if conducted in conjunction with and related to existing OCPSF manufacturing operations at OCPSF facilities, are subject to the OCPSF regulation. The reasoning for this distinction was that the technical and economic data base for the regulation encompassed such operations as they existed in conjunction with commercial facilities. However, wastewater from research and development operations conducted in conjunction with commercial manufacturing operations would be similar to characteristic to wastewater generated by the OCPSF manufacturing operations, and therefore, will also be regulated.

Finally, pretreatment standards set forth in the OCPSF regulation for cyanide and for the two metal pollutants limited, lead and zinc, apply to cyanide-bearing and metal-bearing process wastewaters only, respectively. Product/processes considered by EPA to contain cyanide-bearing and/or metal-bearing process wastewaters are listed in Appendix A of the regulation. In addition, control authorities may designate certain other wastestreams as being cyanide-bearing so long as certain criteria are met. Appendix B of the regulation provides a list of product/processes which contain organic compounds that bind metals into stable complexes not amenable to the treatment used as the basis for the OCPSF metal standards.

APPLICABILITY OF PRODUCT/PROCESSES BY SUBCATEGORY

Subcategory B - Rayon Fibers

The provisions of this subpart are applicable to process wastewater discharges resulting from the manufacture of rayon fiber by the viscose process only.

PSES and PSNS - see Table 1

Subcategory C - Other Fibers

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of the following: SIC 2823 - cellulosic man-made fibers and fiber groups, except Rayon, and SIC 2824 - synthetic organic fibers and fiber groups. Product groups are indicated with an asterisk (*).

*Acrylic Fibers (85% Polyacrylonitrile)
*Cellulose Acetate Fibers
*Fluorocarbon (Teflon) Fibers
*Modacrylic Fibers
*Nylon 6 Fibers
Nylon 6 Monofilament
*Nylon 66 Fibers
Nylon 66 Monofilament
*Polyamide Fibers (Quiana)
*Polyaramid (Kevlar) Resin-Fibers
*Polyaramid (Nomex) Resin-Fibers
*Polyester Fibers
*Polyethylene Fibers
*Polypropylene Fibers
*Polyurethane Fibers (Spandex)

PSES and PSNS - see Table 1

Subcategory D - Thermoplastic Resins

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of SIC 28213 - thermoplastic resins and thermoplastic resin groups. Product groups are indicated with an asterisk (*).

*Abietic Acid - Derivatives
*ABS Resins
*ABS-SAN Resins
*Acrylate-Methacrylate Latexes
*Acrylic Latex
*Acrylic Resins
*Cellulose Acetate Butyrates
Cellulose Acetate Resin
*Cellulose Acetates
*Cellulose Acetates Propionates
Cellulose Nitrate
Cellulose Sponge
*Ethylene-Methacrylic Acid Copolymers
*Ethylene-Vinyl Acetate Copolymers
*Fatty Acid Resins
*Fluorocarbon Polymers
Nylon 11 Resin
*Nylon 6-66 Copolymers
*Nylon 6-Nylon 11 Blends
Nylon 6 Resin
Nylon 612 Resin
Nylon 66 Resin
*Nylons
*Petroleum Hydrocarbon Resins
*Polyvinyl Pyrrolidone-Copolymers
*Poly(Alpha)Olefins
Polyacrylic Acid
*Polyamides
*Polyarylamides
Polybutadiene
*Polybutenes
Polybutenyl Succinic Anhydride
*Polycarbonates
*Polyester Resins
*Polyester Resins, Polybutylene Terephthalate
*Polyester Resins, Polyoxybenzoate
Polyethylene
*Polyethylene-Ethyl Acrylate Resins
*Polyethylene-Polyvinyl Acetate Copolymers
Polyethylene Resin (HDPE)
Polyethylene Resin (LPDE)
Polyethylene Resin, Scrap
Polyethylene Resin, Wax (Low M.W.)
Polyethylene Resin, Latex
Polyethylene Resins
*Polyethylene Resins, Compounded
*Polyethylene, Chlorinated
*Polyimides

*Polypropylene Resins
Polystyrene (Crystal)
Polystyrene (Crystal) Modified
*Polystyrene-Copolymers
*Polystyrene-Acrylic Latexes
Polystyrene Impact Resins
Polystyrene Latex
Polystyrene, Expandable
Polystyrene, Expanded
*Polysulfone Resins
Polyvinyl Acetate
*Polyvinyl Acetate-PVC Copolymers
*Polyvinyl Acetate Copolymers
*Polyvinyl Acetate Resins
Polyvinyl Alcohol Resin
Polyvinyl Chloride
Polyvinyl Chloride, Chlorinated
*Polyvinyl Ether-Maleic Anhydride
*Polyvinyl Formal Resins
*Polyvinylacetate-Methacrylic Copolymers
*Polyvinylacetate Acrylic Copolymers
*Polyvinylacetate-2-Ethylhexylacrylate Copolymers
Polyvinylidene Chloride
*Polyvinylidene Chloride Copolymers
*Polyvinylidene-Vinyl Chloride Resins
*PVC Copolymers, Acrylates (Latex)
*PVC Copolymers, Ethylene-Vinyl Chloride
*Rosin Derivative Resins
*Rosin Modified Resins
*Rosin Resins
*SAN Resins
*Silicones: Silicon Resins
*Silicones: Silicone Rubbers
*Styrene Maleic Anhydride Resins
Styrene Polymeric Residue
*Styrene-Acrylic Copolymer Resins
*Styrene-Acrylonitrile-Acrylates Copolymers
*Styrene-Butadiene Resins
*Styrene-Butadiene Resins (<50% Butadiene)
*Styrene-Butadiene Resins (latex)
*Styrene-Divinyl Benzene Resins (Ion Exchange)
*Styrene-Methacrylate Teropolymer Resins
*Styrene-Methyl Methacrylate Copolymers
*Stryene, Butadiene, Vinyl Toluene Terpolymers
*Sulfonated Styrene-Maleic Anhydride Resins
*Unsaturated Polyester Resins
*Vinyl Toluene Resins
*Vinyl Toluene-Acrylate Resins
*Vinyl Toluene-Butadiene Resins
*Vinyl Toluene-Methacrylate Resins
*Vinylacetate-N-Buylacrylate Copolymers

PSES and PSNS - see Table 1

Subcategory E - Thermosetting Resins

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of SIC 28214-thermosetting resins and thermosetting resin groups. Produce groups are indicated with an asterisk (*).

*Alkyd Resins
Dicyanodiamide Resin
*Epoxy Resins
*Fumaric Acid Polyesters
*Furan Resins
Glyoxal-Urea Formaldehyde Textile Resin
*Ketone-Formaldehyde Resins
*Melamine Resins
*Phenolic Resins
*Polyacetal Resins
Polyacrylamide
*Polyurethane Prepolymers
*Polyurethane Resins
*Urea Formaldehyde Resins
*Urea Resins

Subcategory F - Commodity Organic Chemicals

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of SIC 2865 and 2869-commodity organic chemicals and commodity organic chemical groups. Product groups are indicated with an asterisk (*).

(a) Aliphatic Organic Chemicals
Acetaldehyde
Acetic Acid

Acetic Anhydride
Acetone
Acrylonitrile
Adipic Acid
*Butylenes (Butenes)
Cyclohexane
Ethanol
Ethylene
Ethylene Glycol
Ethylene Oxide
Formaldehyde
Isopropanol
Methanol
Polyoxypropylene Glycol
Propylene
Propylene Oxide
Vinyl Acetate
1,2-Dichloroethane
1,3-Butadiene

(b) Aromatic Organic Chemicals
Benzene
Cumene
Dimethyl Terephthalate
Ethylbenzene
x-Xylene (impure)
p-Xylene
Phenol
*Pitch Tar Residues
*Pyrolysis Gasolines
Styrene
Terephthalic Acid
Toluene
*Xylenes, Mixed
o-Xylene

(c) Halogenated Organic Chemicals
Vinyl Chloride

PSES and PSNS - see Table 1

Subcategory G - Bulk Organic Chemicals

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of SIC 2865 and 2869-bulk organic chemicals and bulk organic chemical groups. Product groups are indicated with as asterisk (*).

(a) Aliphatic Organic Chemicals
*Acetic Acid Esters
*Acetic Acid Salts
Acetone Cyanohydrin
Acetylene
Acrylic Acid
*Acrylic Acid Esters
*Alkoxy Alkanols
*Alkylates
*Alpha-Olefins
Butane (all forms)
*C-4 Hydrocarbons (Unsaturated)
Calcium Stearate
Caprolactam
Carboxymethyl Cellulose
Cellulose Acetate Butyrates
*Cellulose Ethers
Citric Acid
Cumene Hydroperoxide
Cyclohexanol
Cyclohexanol, Cyclohexanone (Mixed)
Cyclohexanone
Cyclohexene
*C12-C18 Primary Alcohols
*C5 Concentrates
*C9 Concentrates
Decanol
Diacetone Alcohol
*Dicarboxylic Acids-Salts
Diethyl Ether
Diethylene Glycol
Diethylene Glycol Diethyl Ether
Diethylene Glycol Dimethyl Ether
Diethylene Glycol Monoethyl Ether
Diethylene Glycol Monomethyl Ether
*Dimer Acids
Dioxane
Ethane
Ethylene Glycol Monophenyl Ether
*Ethoxylates, Misc.
Ethylene Glycol Dimethyl Ether
Ethylene Glycol Monobutyl Ether
Ethylene Glycol Monoethyl Ether
Ethylene Glycol Monomethyl Ether
*Fatty Acids
Glycerine (Synthetic)
Glyoxal
Hexane
*Hexanes and Other C6 Hydrocarbons
Isobutanol
Isobutylene
Isobutyraldehyde
Isophorone
Isophthalic Acid
Isoprene
Isopropyl Acetate
Ligninsulfonic Acid, Calcium Salt
Maleic Anhydride
Methacrylic Acid

*Methacrylic Acid Esters
Methane
Methyl Ethyl Ketone
Methyl Methacrylate
Methyl Tert-Butyl Ether
Methylisobutyl Ketone
*n-Alkanes
n-Butyl Alcohol
n-Butylacetate
n-Butyaldehyde
n-Butyric Acid
n-Butyric Anhydride
*n-Paraffins
n-Propyl Acetate
n-Propyl Alcohol
Nitrilotriacetic Acid
Nylon Salt
Oxalic Acid
*Oxo Aldehydes-Alcohols
Pentaerythritol
Pentane
*Pentanes
*Petroleum Sulfonates
Pine Oil
Polyoxybutylene Glycol
Polyoxyethylene Glycol
Propane
Propionaldehyde
Propionic Acid
Propylene Glycol
Sec-Butyl Alcohol
Sodium Formate
Sorbitol
Stearic Acid, Calcium Salt (Wax)
Tert-Butyl Alcohol
1-Butene
1-Pentene
1,4-Butanediol
Isobutyl Acetate
2-Butene (Cis and Trans)
2-Ethyl Hexanol
2-Tehylbutyraldehyde
2,2,4-Trimethyl-1,3-Pentanediol

(b) Amine and Amide Organic Chemicals
2,4-Diaminotoluene
*Alkyl Amines
Aniline
Caprolactam, Aqueous Concentrate
Diethanolamine
Diphenylamine
*Ethanolamines
Ethylamine
Ethylenediamine
Ethylenediaminetetracetic Acid
*Fatty Amines
Hexamethylene Diamine
Isopropylamine
m-Toluidine
Melamine
Melamine Crystal
*Methylamines
Methylene Dianiline
n-Butylamine
N,N-Diethylaniline
N,N-Diethylformamide
*Nitroanilines
Polymeric Methylene Dianiline
Sec-butylamine
Tert-Butylamine
Toluenediamine (Mixture)
*Toluidines
o-Phenylenediamine
2,6-Dimethylaniline
4-(N-Hydroxyethylethylamino)-2-Hydroxylethyl Analine
4,4'-Methylenebis (N,N'-dimethyl)-aniline
4,4' Methylenedianiline

(c) Aromatic Organic Chemicals
Alpha-Methylstyrene
*Alkyl Benzenes
*Alkyl Phenols
*Alkylbenzene Sulfonic Acids, Salts
Aminobenzoic Acid (Meta and Para)
Aspirin
Beta-Naphthalene Sulfonic Acid
Benzenedisulfonic Acid
Benzoic Acid
Bis(2-Ethylhexyl)Phthalate
Bisphenol A
BTX-Benzene, Toluene, Xylene (Mixed)
Butyl Octyl Phthalate
Coal Tar
*Coal Tar Products (Misc.)
Creosote
*Cresols, Mixed
Cyanuric Acid
*Cyclic Aromatic Sulfonates
Dibutyl Phthalate
Diisobutyl Phthalate
Diisodecyl Phthalate
Diisooctyl Phthalate
Dimethyl Phthalate
Dinitrotoluene (Mixed)
Ditridecyl Phthalate
m-Cresol
Metanilic Acid
Methylenediphenyldiisocyanate

Naphthalene
*Naphthas, Solvent
Nitrobenzene
Nitrotoluene
Nonylphenol
p-Cresol
Phthalic Acid
Phthalic Anhydride
*Tars-Pitches
Tert-Butylphenol
*Toluene Diisocyanates (Mixture)
Trimellitic Acid
o-Cresol
1-Tetralol, 1-Tetralone Mix
2,4-Dinitrotoluene
2,6-Dinitrotoluene

(d) Halogenated Organic Chemicals
1,4-Phenylenediamine Dihydrochloride
Allyl Chloride
Benzyl Chloride
Carbon Tetrachloride
*Chlorinated Paraffins, 35-64 PCT, Chlorine
Chlorobenzene
*Chlorobenzenes (Mixed)
Chlorodifluoroethane
Chloroform
*Chlormethanes
2-Chloro-5-Methylphenol (6-chloro-m-cresol)
*Chlorophenols
Chloroprene
Cyanogen Chloride
Cyanuric Chloride
Dichloropropane
Epichlorohydrin
Ethyl Chloride
*Fluorocarbons (Freons)
Methyl Chloride
Methylene Chloride
Pentachlorophenol
Phosgene
Tetrachloroethylene
Trichloroethylene
Trichlorofluoromethane
Vinylidene Chloride
1,1-Dichloroethane
1,1,1-Trichloroethane
2,4-Dichlorophenol

(e) Other Organic Chemicals
Adiponitrile
Carbon Disulfide
Dithiophosphates, Sodium Salt
Fatty Nitriles
*Organo-Tin Compounds
*Phosphate Esters
Tetraethyl Lead
Tetramethyl Lead
*Urethane Prepolymers
*Waxes, Emulsions-Dispersions

PSES and PSNS - see Table 1

Subcategory H - Specialty Organic Chemicals

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of all SIC 2865 and 2869 organic chemicals and organic chemical groups which are not previously defined as commodity or bulk organic chemicals in Subcategory G and Subcategory H, respectively.

PSES and PSNS - see Table 1

Appendix A to Part 414 - Non-Complexed Metal-Bearing Waste Streams and Cyanide-Bearing Waste Streams

Chromium

Methylhydroabietate/Esterification of hydroabietic acid (rosin) with methanol
Acrylic acid/Oxidation of propylene via acrolein
N-Butyl alcohol/Hydrogenation of n-Butyraldehyde, Oxo process
Cyclohexanone/From phenol via cyclohexanol by hydrogenation-dehydrogenation
Fatty amines/Hydrogenation of fatty nitriles (batch)
Helioptropin/Oxidation of isosafrole, chromium catalyst
Isobutanol/Hydrogenation of isobutyraldehyde, Oxo process
Cyclohexyl Mercaptan/Cyclohexanol + Hydrogen sulfide
Ethyl Mercaptan/Ethanol + Hydrogen sulfide
Methanol/H.P. Synthesis from natural gas via synthetic gas
Oxo Alcohols, C7-C11/Carbonation & hydrogenation of C6-C10 Olefins
Polyoxypropylene diamine/Polypropylene glycol + Ammonia
n-Propyl alcohol/Hydrogenation of propionaldehyde, Oxo process
SAN resin/Suspension polymerization
Styrene/Dehydrogenation of ethylbenzene
Styrene/Dehydration of methyl benzyl alcohol (coproduct of propylene oxide)
1-Tetralol, 1-Tetralone mix/Oxidation of tetralin (1,2,3,4-Tetrahydronaphthalene)
3,3,3-Trifluoropropene/Catalyzed hydrogen fluoride exchange with chlorinated propane
Vinyl toluene/Dehydrogenation (thermal) of ethyltoluene

Copper

Methylhydroabietate/Esterification of hydroabietic acid (rosin) with methanol
Acetaldehyde/Oxidation of ethylene with cupric chloride catalyst
Acetic acid/Catalytic oxidation of butane
Acetone/Dehydrogenation of isopropanol
Acrylamide/Catalytic hydration of acrylonitrile
Acrylic acid/Oxidation of propylene via acrolein
Acrylonitrile/Propylene ammoxidation
Adipic acid/Oxidation of cyclohexanol-cyclohexanone mixture
Adipic acid/Oxidation of cyclohexane via cyclohexanol-cyclohexanone mixture
Allynitrile/Allychloride + sodium cyanide
Aniline/Hydrogenation of nitrobenzene
Benzofurans, 2,3-Dihydro-2,2-dimethyl-7-benzofuranol/from o-Nitrophenol + Methallyl chloride
n-Butyl alcohol/Hydrogenation of n-Butyraldehyde, Oxo process
1,4-Butanediol/Hydrogenation of 1,4-butynediol
Butryolactone/Dehydrogenation of 1,4-butanediol
Caprolactam/From cyclohexane via cyclohexanone and its oxime
Lilian (hydroxydihydrocitronellal)/Hydration and oxidation of citronellol
1,2-Dichloroethane/Oxyhydrochlorination of ethylene
Dialkyldithiocarbamates, metal salts/Dialkylamines + carbon disulfide
2-Ethylhexanol/from n-Butyraldehyde by Aldo condensation and hydrogenation
Fatty amines/Hydrogenation of fatty nitriles (batch)
Geraniol/B-Myrcene + Hydrogen chloride, esterification of geranyl chloride, hydrolysis of geranyl acetate
Furfuryl alcohol/Hydrogenation of furfural
Geranial (Citral)/Oxidation of geraniol (copper catalyst)

Glyoxal/Oxidation of ethylene glycol
Isobutanol/Hydrogenation of isobutyraldehyde, Oxo process
Isopropanol/Catalytic hydrogenation of acetone
2-Mercaptobenzothiazoles, copper salt/2-Mercaptobenzothiazole + copper salt
Methanol/High pressure synthesis from natural gas via synthetic gas
Methanol/Low pressure synthesis from natural gas via synthetic gas
Methyl ethyl ketone/Dehydrogenation of sec-Butanol
Oxo alcohols, C7-C11/Carbonation & hydrogenation of C6-C10 olefins
Phenol/Liquid phase oxidation of benzoic acid
Polyoxyalkylene amines/Polyoxyalkylene glycol + ammonia
Polyphenylene oxide/Solution polymerization of 2,6-xylenol by oxidative coupling (cuprous salt catalyst)
Polyoxypropylene diamine/Polypropylene glycol + Ammonia
Quinaldine (dye intermediate)/Skraup reaction of aniline + crotonaldehyde
Silicones, silicone fludis/Hydrolysis and condensation of chlorosilanes
Silicones, silicone rubbers/Hydrolysis and condensation of chlorosilanes
Silicones, silicone specialties (grease, dispersion agents, defoamers & other products)
Silicones: Silicone resins/Hydrolysis & condensation of methyl, phenyl & vinyl chlorosilanes
Silicones: Silicone fluids/Hydrolysis of chlorosilanes to acyclic & cyclic organosiloxanes
Stryrene/Dehydration of a Methylbenzyl alcohol (coproduct of propylene oxide)
Tetrachloroethylene (perchloroethylene)/Oxyhydrochlorination of tetrachloroethane
Tris(anilino)s-triazine/Cyanuric chloride + aniline + cogeners
Trichloroethylene/Oxyhydrochlorination of tetrachloroethane
Unsaturated polyester resin/Reaction of maleic anhydride + phthalic anhydride + propylene glycol polyster with styrene or methyl methaerylater

Lead

Alkyd resin/Condensation polymerization
Alkyd resins/Condensation polymerization of phthalic anhydride + glycerin + vegetable oil esters
Anti-knock fuel additive/Blending purchased tetraethyl lead & tetramethyl lead additives
Dialkydithiocarbamates, metal salts/Dialkylamines + carbon disulfide
Thiuram (dimethyldithiocarbamate) hexasulfide/Dimethyldithiocarbamate + sulfur
Triphenylmethane dyes (methyl violet)/Condensation of Formaldehyde + N-Methylaniline + N,N-dimethylaniline, oxidation of reaction product
4,4'-Bis-(N-N-dimethylaniline) carbinol, Michler's hydrol/Oxidation of 4,4'-Methylene-bis(N,N-dimethylaniline) with lead oxide
Naphthenic acid salts
Stearic acid, metal salts/Neutralization with a metallic base
Tetraethyl lead/Alkyl halide + sodium-lead alloy
Tetramethyl lead/Alkyl halide + sodium-lead alloy

Nickel

Acetates, 7,11-Hexadecadien-1-of (gossyplure)/Coupling reactions, low pressure hydrogenation, esterification
Acetates, 9-dodecen-1-of (pheromone/Coupling reactions, low pressure hydrogenation, esterification
Acrylic acid/oxidation of propylene via acrolein
Acrylonitrile/Propylene ammoxidation
n-Alkanes/Hydrogenation of C6-C22 alpha olefins (ethylene oligomers)
Adiponitrile/Direct cyanation of butadiene
Alkyl amines/Amination of alcohols
4-Aminoacetanilide/Hydrogenation of 4-Nitroacentanilide
BTX/Hydrogenation of olefins (cyclohexenes)

Terphenyls, hydrogenated/Nickel catalyst, hydrogenation of terphenyl
Bisphenol-A, hydrogenated (Biscyclohexanol-A)/Hydrogenation of Bisphenol-A
Butadiene (1,3)/Extractive distillation of C-4 pyrolzates
n-Butanol/Hydrogenation of n-Butyraldehyde, Oxo process
1,3-Butytlene glycol/Hydrogenation of acetaldol
1,4-Butanedial/Hydrogenation of 1,4-butynediol
Butylenes (mixed)/Distilation pf C4 pyrolyzates
4-Chloro-2-aminophenol/Hydrogenation of 4-Chloro-2-nitrophenol
Lilial (hydroxydihydrocitronellal)/ Hydration and oxidation of citronellol
Cycloparafins/Catalytic hydrogenation of aromatics in kerosene solvent
Cyclohexanol/Hydrogenation of phenol, distillation
Cyclohexanone/From phenol via cyclohexanol by hydrogenation-dehydrogenation
Dialkyldithocarbomates, metal salts/Dialklamines + carbon disulfide
Ethylamine/Reductive amination of ethanol
Ethylamines (mono, di, tri)/Reductive ammination (ammonia + hydrogen) of ethanol
Isoeugenol, high % trans/Separation of mixed cis & trans isoeugenols
2-Ethylehexanol/from n Butyraldehyde by Aldol condensation and hydrogenation
Fatty acids, hydrogenated/tallow & coco acids + Hydrogen
Fatty amines/Hydrogenation of fatty nitriles (batch)
Fatty amines/Hydrogenation of tallow & coco nitriles
Glyoxal-urea formaldehyde textile resin/condensation to N-bis (hydroxymethyl) ureas & N,N-(dihydroxyethyl) ureas
11-hexadecenal/Coupling rxns, low pressure hydrogenation
Hexahydrophthalic anhydride/Condensation of butadiene & maleic anhydride (Diels-Alder reaction) + hydrogenation
Isobutanol/Hydrogenation of isobutyraldehyde, Oxo process
Diisobutyl amine/Ammonolysis of isobutanol
Isopropyl amines (mono, di)/Reductive ammination (Ammonia + Hydrogen) of isopropanol
Linalool/Pyrolysis of 2-Pinanol
Methanol/High pressure synthesis from natural gas via synthetic gas
Methanol/Low pressure sythesis from natural gas via synthetic gas
Methanol/Butane oxidation
Tris-(hydroxymethyl)methyl amine/ Hydrogenation of tris(hydroxymethyl) nitromethane
N-Methyl morpholine/Morpholine + Methanol
N-Ethyl morpholine/Morpholine + Ethanol
2-Methyl-7,8-epoxy octadecane/Coupling reactions, low pressure hydrogenation, expoxidation
Alpha-Olefins/Ethylene oligomer, & Zeigler Cat.
Petroleum hydrocarbon resins, hydrogenated/Hydrogenation of petroleum hydrocarbon resin products
Pinane/Hydrogenation of A-Pinene
2-Pinanol/Reduction of pinane hydroperoxide
Bis-(p-Octylphenol) sulfide, Nickel salt/p-Octylphenol + sulfur chloride (S2Cl2), neutralize with Nickel base
Piperazine/Reductive amination of ethanol amine (ammonia & hydrogenation, metal catalyst)
N,N-Dimethylpiperazine/Condensation piperazine + formaldehyde, hydrogenation
Polyoxlalkylene amines/Polyoxyalkylene glycol + Ammonia
Polyoxypropylene diamine/Polypropylene glycol + Ammonia
2-Amino-2-methyl-1-propanol/ Hydrogenation of 2-Nitro 2-methyl-1-propanol
3-Methoxypropyl amine/Reductive amination of acrylamide with methanol & hydrogen
N-Propylamine/Reductive ammination (ammonia + hydrogen) of n-propanol
Sorbitol/Hydrogenation of sugars
Sulfolane/Condensation butadiene + sulfur-dioxide, Hydrogenation

Thionocarbamates, N-Ethyl-o-isopropyl/ Isopropylxanthate + Ethylamine
Toluene diamine (mixture)/Catalytic hydrogenation of dinitrotoluene
Methylated urea-formaldehyde resins (textile)/Methinitrotoluene
Methylated ures-formaldehyde resins (textile)/Methylation of urea-formaldehyde adduct
Methylated urea-formaldehyde glyoxol (textile resin)/Reaction of methylated urea-formaldehyde + glyoxal

Zinc

Methylhydroabietate, diels-alder adducts/Derivatives of abietic esters from rosin
Acrylic resins/Emulsion or solution polymerization to coatings
Acrylic resins (latex)/Emulsion polymerization of acrylonitrile with polybutadiene
Acryl fibers (85% polyacrylonitrile) by solution polymerization/Wet spinning
Alkyd Resins/Condensation polymerization of phthalic anhydride + glycerin + vegetable oil esters
Benzene/By-product of styrene by ethylbenzene dehydrogenation
Benzene/By-product of vinyl toluene (from ethyltoluene)
n-butyl alcohol/Hydrogenation of n-Butyraldehyde, Oxo process
Coumarin (benz-a-pyrone)/ Salicylaldehyde, Oxo process
Cycloparaffins/Catalytic hydrogenation of aromatics in kerosene solvent
Dithiocarbamates, zinc salt/Reaction of zinc ox~~ide~~ + Sodium dithiocarbamates
Dialkyldithiocarbamates, metal salts/ Diakylamines + Carbon disulfide
Dithiocarbamates, metal salts/ Dithiocarbamic acid + metal oxide
Thiuram (dimethyldithiocarbamate) hexasulfide/Dimethyldithiocarbamate + sulfur
Fluorescent brighteners/Coumarin based
Ethyl acetate/Redox reaction (Tschenko) of acetaldehyde
Ethylbenzene/Benzene alkylation in liquid phase
Ethylbenzyl chloride/Chloromethylation (Hydrogen chloride + formaldehyde, zinc chloride) of ethylbenzene
2-Ethyl hexanol/Aldol condensation-hydrogenation of n-Butyraldehyde
Glyoxal-urea formaldehyde textile resin/Condensation to N-bis (hydroxymethyl) ureas + N,N'-(Dihydroxyethyl) ureas
Isobutanol/Hydrogenation of isobutyraldehyde, Oxo process
Isopropanol/Catalytic hydrogenation of acetone
Methallylidene diacetate/Condensation of 2-Methypropenal + acetic anhydride
Methanol/Low pressure sythesis from natural gas via synthetic gas
Methyl chloride/Hydrochlorination of methanol
Methylethyl ketone/Dehydrogenation of sec-Butanol
Naphthenic acid salts
Nylon
Nylon 6 & 66 copolymers/ Polycondensation of Nylon salt + Caprolatam
Nylon 6 fiber/Extrusion (melt spinning)
Oxo alcohols, C12-C15/Hydroformylation & hydrogenation of C11-C14 olefins
Phenolic urethan resins/Phenol + excess formaldehyde + Methylene aniline diisocyanate
Polystyrene (crystal) modified/ Polystyrene + solfonation, chloromethylation and/or amination
Rayon/Viscose process
SAN resin/Emulsion polymerization
Silicones: Silicone rubbers/ Hydrolysis and condensation of chlorosilanes
Silicones: Silicone specialities (grease, dispersion agents, defoamers & other products)
Silicones: Silicone resins/Hydrolysis & condensation of methyl, phenyl & vinyl chlorosilanes
Silicones: Silicone fluids/Hydrolysis of chlorosilanes to acyclic & cyclic organosiloxanes
Stearic acid, metal salts/ Neutralization with a metallic base
Styrene/Dehydrogenation of ethylbenzene

Styrene-butadiene resin/Emulsion polymerization
Vinyl acetate/Reduction of acetylene + acetic acid
Vinyl toluene/Dehydrogenation (thermal) of ethyltoluene
Xylenes, mixed/By-product vinyl toluene (from ethyltoluene)

Cyanide

Acetone cyanohydrin/Acetone + Hydrogen cyanide
Acetonitrile/By-product of acrylonitrile from propylene by ammoxidation
Acrylic resins/Solution polymerization
Acrylic fiber (85% acrylonitrile)/ Suspension polymerization, and wet spinning
Acrylic fiber (85% acrylonitrile)/ Solution polymerization, and wet spinning
Acrylonitrile/Ammoxidation of propylene
Adiponitrile/Butadiene + Hydrogen cyanide (direct cyanation)
Allylnitrile/Allyl chloride + Sodium cyanide
Dimethoxbenzaldehyde/Hydroquinone dimethyl ether + Hydrogen cyanide, hydrolysis
Benzyl cyanide/Benzyl chloride + Sodium cyanide
Coal tar products/Distillation of coal tar condensate
Cyanoacetic acid/Chloracetic acid + sodium cyanide
Cyanuric chloride/Catalyzed trimerization of cyanogen chloride
Vat dyes, Indigo paste as Vat Blue 1/ Sodamide + potassium N-Phenylglycine, fused with caustic/N-phenylglycine + Aniline + Formaldehyde + Sodium bisulfite, sodium cyanide, hydrolysis with potassium hydroxide
Disperse dyes, Azo and Vat
Ethylenediamine tetraacetic acid/ Ethylenediamine + Formaldehyde + Sodium cyanide
Diethylenetriamine pentaacetic acid/ Diethylenetriamine + Formaldehyde + Sodium cyanide
N,N-'bis(o-Acetamidophenol) ethylenediamine, ferric complex/ Salicyladehyde + Ethylenediamine + Hydrogen cyanide, hydrolysis to amide
Diethylenetriamine pentaacetic acid, pentasodium salt/Diethylenetriamine pentaacetic acid + caustic
Ethylenediamine tetraacetic acid, metal salts/Ethylenediamine tetraacetic acid + metal bases
Hydroxyethyl ethylenediamine triacetic acid, trisodium salt/Ethylenediamine + Ethylene oxide + Formaldehyde + Sodium cyanide, hydrolysis
Hexamethylene diisocyanate/ Hexamethylene diamine (1,6-Diaminohexane) + phosgene
5,5-Dimethyl hyantoin/Acetone + ammonia + carbon dioxide + hydrogen cyanide
Hydrogen cyanide/By-product of acrylonitrile by ammoxidation of propylene
Iminodiacetic acid/Hexamethylene tetraamine + Hydrogen cyanide, hydrolysis of iminoacetonitrile salt
Methionine/Acrolein + Methyl mercaptan, with hydrogen cyanide and ammonium carbonate
Methylene Diphenylisocyanate (MDI/ Phosgenation of methylene dianiline from Aniline + Formaldehyde
Nitrilotriacetic acid/Hexamethylene tetraamine + Hydrogen cyanide, hydrolysis of nitrilotriacetonitrile salt
Picolines, mixed/Condensation of acetaldehyde + formaldehyde + ammonia
Organic pigments, Azo/Diazotization of aniline cogener, coupling to B-Napthol
Polyurethane resins/Diisocyanate + Polyoxyalkylene glycol
Polyurethane fibers (Spandex)/ Polyoxyalkylene glycol + Toluene diisocyanate + dialkylamine
Pyrimidines, 2-Isopropyl-4-methoxy-/ Isobutyronitrile + methanol, ammonia and methylacetoacetate (ring closure)
Pyridine (synthetic)/Condensation of acetaldehyde + ammonia + formaldehyde

Cyanopyridine/Ammoxidation of picoline
Sarcosine (N-Methyl glycine), sodium salt/Hexamethylene tetraamine + Sodium cyanide, hydrolysis
Thiophene acetic acid/Chloromethylation (Hydrogen chloride + Formaldehyde) + Sodium cyanide, hydrolysis
Tolylene diisocyanate (isomeric mixture)/Tolylene diamines + Phosgene
Tris(anilino)S-triazine/Cyanuric chloride + Aniline and its cogeners
Triethylorthoformate/Ethanol + Hydrogen cyanide
Trimethylorthoformate/Methanol + Hydrogen cyanide

Appendix B to Part 414--Complexed Metal-Bearing Waste Streams

Chromium

Azo dye intermediates/Substituted diazonium salts + coupling compounds
Vat dyes/Mixing purchased dyestuffs (Anthraquinones, polycyclic Quinones and Indigoids)
Acid dyes
Azo dyes, metallized/Azo dye + metal acetate
Acid dyes, Azo (including metallized)
Organic pigments, miscellaneous lakes and toners

Copper

Disperse dyes
Vat dyes/Mixing purchased dyestuffs (Anthraquinones, polycyclic Quinones and Indigoids)
Acid dyes
Direct dyes
Vat dyes
Sulfur dyes
Disperse dye coupler/N-substitution of 2-Amino-4-acetamidoanisole
Azo dyes, metallized/Azo dye + metal acetate
Direct dyes, Azo
Disperse dyes, Azo and Vat
Organic pigment Green 7/Copper phthalocyanine
Organic pigments
Organic pigments/Phthalocyanine pigments
Organic pigments/Copper phthalocyanine (Blue Crude)
Organic pigments, miscellaneous lakes and toners

Lead

Organic pigments, Quinacridines
Organic pigments, Thioindigoids

Nickel

Azo dyes, metallized/Azo dye + metal acetate

Zinc

Organic pigments/Azo pigments by diazotization and coupling

Table 1: Pretreatment Standards for Existing and New Sources (PSES and PSNS) - Subcategories B-H

Pollutant or Pollutant Property	Maximum for any one day (µg/l)	Maximum for monthly average (µg/l)
Acenaphthene	47	19
Benzene	134	57
Carbon Tetrachloride	380	142
Chlorobenzene	380	142
1,2,4-Trichlorobenzene	794	196
Hexachlorobenzene	794	196
1,2-Dichloroethane	574	180
1,1,1-Trichloroethane	59	22
Hexachloroethane	794	196
1,1-Dichloroethane	59	22
1,1,2-Trichloroethane	127	32
Chloroethane	295	110
Chloroform	325	111
1,2-Dichlorobenzene	794	196
1,3-Dichlorobenzene	380	142
1,4-Dichlorobenzene	380	142
1,1-Dichloroethylene	60	22
1,2-Trans-dichloroethylene	66	25
1,2-Dichloropropane	794	196
1,3-Dichloropropylene	794	196
2,4-Dimethylphenol	47	19
Ethylbenzene	380	142
Fluoranthene	54	22
Methylene Chloride	170	36
Methyl Chloride	295	110
Hexachlorobutadiene	380	142
Naphthalene	47	19
Nitrobenzene	6,402	2,237
2-Nitrophenol	231	65
4-Nitrophenol	576	162
4,6-Dinitro-o-cresol	277	78
Phenol	47	19
Bis(2-ethylhexyl) phthalate	258	95
Di-n-butyl phthalate	43	20
Diethyl phthalate	113	46
Dimethyl phthalate	47	19
Anthracene	47	19
Fluorene	47	19
Phenanthrene	47	19
Pyrene	48	20
Tetrachloroethylene	164	52
Toluene	74	28
Trichloroethylene	69	26
Vinyl Chloride	172	97

Total Cyanide	1,200	420
Total Lead	690	320
Total Zinc[1]	2,610	1,050

[1]Total zinc for Rayon Fiber Manufacture that uses the viscose process or Acrylic Fiber Manufacture using the zinc chloride/solvent process is 6,796 µg/l that 3,325 µg/l for maximum for any one day and maximum for monthly average, respectively.

Mass-based standards -

(a) Any existing or new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentration listed above.

(b) In the case of lead, zinc and total cyanide the discharge quantity (mass) shall be determined by multiplying the concentrations listed above for the metal pollutants times the flow from metal-bearing waste streams and times the flow from the cyanide-bearing waste streams for total cyanide, respectively. The metal-bearing waste streams and cyanide-bearing waste streams are defined as those waste streams listed in Appendix A, plus any additional process wastewater streams identified by the control authority on a case-by-case basis as metal or cyanide bearing based upon a determination-

(1) That such streams contain significant amounts of the pollutants identified above and

(2) That the combination of such streams, prior to treatment, with the Appendix A waste streams will result in substantial reduction of these pollutants.

This determination must be based upon a review of relevant engineering, production, and sampling and analysis information.

40 CFR PART 455

PESTICIDE CHEMICALS

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms subject to the Pesticide Chemicals categorical standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Pesticide Chemicals standards were established by the Environmental Protection Agency under Part 455 of Title 40 of the Code of Federal Regulations (40 CFR 455). In response to the Eleventh Circuit Court of Appeals' remand on July 25, 1986 of the final regulation originally promulgated on October 4, 1985, the EPA removed the regulation from the Code of Federal Regulations on December 15, 1986. The EPA's removal of the regulation was retroactive. The effective date of the withdrawal is July 25, 1986, the date of the court's remand order.

Although the regulation for this category is no longer effective, the summary of the regulations has not been revised but has been retained for reference by interested persons. EPA intends to review the regulation and standards previously promulgated and to establish new effluent guidelines and standards for the pesticide industry. The standards contained in this summary are not intended to provide an indication of standards to be promulgated in the future. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	November 30, 1982	Vol. 47, p. 53994
Final Rule	October 4, 1985	Vol. 50, p. 40672
Final Rule - Withdrawal	December 15, 1986	Vol. 51, p. 44911

APPLICABLE DATES

Effective Date: --
Baseline Monitoring Due Date: --
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): --
- Pretreatment Standards for New Sources (PSNS): --

SUBCATEGORIES AND SIC CODES

The Pesticide Chemicals category is divided into three industrial segments or subcategories based primarily on the waste characteristics of

pollutants regulated and the appropriate technologies developed to treat those pollutants. The major factors examined during the process of identifying subcategories included the raw materials used; products manufactured; production processes employed; plant size, location, age, and energy requirements; treatment costs; solid waste generation; and wastewater characteristics and treatability. Pesticide chemical manufacturers affected by these regulations are found in the Standard Industrial Classification (SIC) Major Group 28, Chemicals and Allied Products. The subcategories and their corresponding SIC Codes are as follows:

	Subcategory	SIC Code
A.	Organic Pesticide Chemicals Manufacturing	2869
B.	Metallo-Organic Pesticide Chemicals Manufacturing	2869
C.	Pesticide Chemical Formulating and Packaging	2879

REGULATED POLLUTANTS

The pollutants regulated by the Pesticide Chemicals category consist of 34 toxic pollutants, 89 nonconventional active ingredient pesticide pollutants and a class of nonconventional pollutants designated metallo-organics. Metallo-organic pollutants are considered organic pesticide active ingredients that incorporate one or more atoms of mercury, copper, cadmium, or arsenic within their molecular structure. Nonconventional (active ingredient) pesticide pollutants are defined in 40 CFR 455.10(g) as all pesticide active ingredients that are not toxic pollutants under 40 CFR 401.15 or conventional pollutants under 401.16 and for which pretreatment standards are established in this category.

PRETREATMENT STANDARDS FOR EXISTING AND NEW SOURCES (PSES AND PSNS)

PSES and PSNS for the three subcategories are summarized in the following pages. Pretreatment Standards for Existing Sources (PSES) have been promulgated for all three subcategories. Pretreatment Standards for New Sources (PSNS) have not been promulgated for the Metallo-Organic Pesticide Chemicals Manufacturing Subcategory (Subcategory B) because of the small number of industrial sources and the determination made by EPA that further analysis is necessary to provide an appropriate technological basis for new source standards.

SUBCATEGORY A - ORGANIC PESTICIDE CHEMICALS MANUFACTURING

PRETREATMENT STANDARDS FOR EXISTING AND NEW SOURCES (PSES AND PSNS)

A discharging facility that manufactures one or more of the pesticide active ingredients listed in Column A of Appendix A must comply with the non-conventional pesticide pollutant effluent limitations and standards listed below.

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Maximum Monthly Average (mg/l)
Alachlor	0.17	0.041
Atrazine	19.3	7.2
Azinophos methyl	1.4	0.37
Barban	zero	zero
Benfluralin	0.20	0.11
Benomyl	13.3	4.1
Bolstar	0.002	0.0008
Bromacil	0.31	0.095
Busan 40	0.44	0.22
Busan 85	0.44	0.22
Butachlor	0.006	0.003
Carbam-s	0.44	0.22
Carbendazim	13.3	4.1
Carbofuran	8.5	2.6
Carbophenothion	0.16	0.076
Chlorpropham	12.2	5.1
Chlorpynifos	0.16	0.076
Chlorpynifos methyl	0.16	0.076
Coumaphos	0.16	0.076
2,4-D	3.3	1.5
2,4-D isobutyl ester	3.9	1.7
2,4-D isooctyl ester	3.9	1.7
2,4-DB	0.025	0.014
2,4-DB isobutyl ester	0.041	0.019

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Maximum Monthly Average (mg/l)
2,4-DB isooctyl ester	0.041	0.019
DBCP	1.6	0.78
Demeton	0.17	0.061
Demeton-o	0.14	0.046
Demeton-s	0.14	0.046
Diazino	0.15	0.069
Dichlofenthion	0.15	0.071
Dichlorvos	0.021	0.007
Dinoseb	0.79	0.42
Dioxanthion	0.16	0.076
Disuifoton	0.82	0.25
Diuron	0.090	0.050
Ethalfluralin	0.40	0.21
Ethion	0.15	0.071
Fensulfothion	2.6	0.85
Fenthion	0.91	0.38
Ferbam	1.2	0.39
Fluometuron	0.054	0.030
Glyphosate	130	32
Isopropalin	0.20	0.11
KN methyl	0.44	0.22
Linuron	0.056	0.031
Malathion	0.15	0.071
Mancozeb	1.2	0.39
Maneb	1.2	0.39
Metham	0.44	0.22
Methomyl	30.0	9.7
Metribuzin	1.6	0.48
Mevinphos	0.22	0.074
Naled	0.31	0.16
Neburon	0.090	0.050
Niacide	1.2	0.39
Oxamyl	25.7	9.3

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Maximum Monthly Average (mg/l)
Parathion ethyl	0.014	0.004
Parathion methyl	0.014	0.004
PCNB	0.21	0.064
PCP salt	4.7	1.0
Phorate	0.15	0.071
Profluralin	0.005	0.003
Prometon	3.7	1.4
Prometryn	19.3	7.2
Propachlor	0.030	0.012
Propazine	19.3	7.2
Propham	12.5	3.8
Propoxur	8.5	2.6
Ronnel	0.16	0.076
Silvex	1.9	0.79
Silvex isocytlester	zero	zero
Silvex salt	zero	zero
Simazine	19.3	7.2
Simetryne	3.7	1.4
Stirofos	0.031	0.015
Swep	12.2	5.1
2,4,5-T	1.9	0.79
Terbacil	30.3	9.6
Terbufos	0.15	0.071
Terbuthylazine	19.3	7.2
Terbutryn	19.3	7.2
Tributyltin benzoate	zero	zero
Trichloronate	0.16	0.076
Trifluralin	0.043	0.023
Vancide 51 Z	zero	zero
Vancide 51 Z dispersion	zero	zero
ZAC	1.2	0.39
Zineb	1.2	0.39

A discharger that manufactures a pesticide active ingredient listed in Column A of Appendix A must also comply with the effluent limitations and pretreatment standards specified below for the corresponding priority pollutants listed in Column B of Appendix A.

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Maximum Monthly Average (mg/l)
1,2-Dichlorobenzene[1]	0.11	0.040
1,4-Dichlorobenzene[1]	0.045	0.018
1,2,4-Trichlorobenzene[1]	0.13	0.055
Methyl bromide	0.15	0.042
Carbon tetrachloride	0.13	0.038
Chloroform	0.075	0.031
Methyl chloride	0.11	0.032
Methylene chloride	0.56	0.16
Cyanide	0.64	0.22
Bis(2-chloroethyl)ether[1]	zero	zero
2,4-Dichlorophenol	0.050	0.023
2,4-Dinitrophenol	0.12	0.034
4-Nitrophenol	0.050	0.019
Pentachlorophenol	0.25	0.15
Copper	0.27	0.13
Zinc	0.26	0.18
N-nitrosodi-n-propylamine	0.090	0.028
1,3-Dichloropropane[1]	zero	zero
Hexachlorocyclopentadiene	0.13	0.037
a-BHC-Alpha	0.090	0.032
b-BHC-Beta	0.090	0.032
d-BHC-Delta	0.090	0.032
g-BHC-Gamma	0.090	0.032
a-Endosulfan-Alpha	0.090	0.032
b-Endosulfan-Beta	0.090	0.032
Endrin	0.18	0.057
Heptachlor	0.090	0.032
Toxaphene	0.005	0.002

[1]These pollutants are regulated only in those processes in which they are the manufactured product.

SUBCATEGORY B - METALLO-ORGANIC PESTICIDE CHEMICALS MANUFACTURING

PSES

a. Any facility that manufactures metallo-organic pesticides which contain arsenic, cadmium, or copper must comply with the following pretreatment standard:

There shall be no discharge of process wastewater pollutants. (This limitation applies to all wastewaters from the manufacture of pesticide active ingredients containing arsenic, cadmium, or copper.)

b. Any facility that manufactures metallo-organic pesticides containing mercury must meet the following effluent limitations:

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Maximum Monthly Average (mg/l)
Mercury	0.45	0.27

PSNS

Reserved

SUBCATEGORY C - PESTICIDE CHEMICALS FORMULATING AND PACKAGING

PSES AND PSNS

There shall be no discharge of priority pollutants or pesticide active ingredients listed in Appendix D in the process wastewater resulting from the formulation and packaging of any of the pesticides listed in Appendix D.

Appendix A.—Priority Pollutants Regulated in Pesticide Active Ingredient Manufacturing Wastewaters.

The following requirements are applicable to pesticides in Part 455. Whenever a discharger manufactures a pesticide active ingredient listed in Column A that discharger must meet the effluent limitations and standards for the priority pollutants specified in Column B.

Column A	Column B
Pesticide active ingredient	Priority pollutant regulated
Acephate	Methylene chloride.
	Toluene.
Alachlor	1,2-Dichloroethane.
	Chlorobenzene.
Aldicarb	
Alkylamine hydrochloride	
Alethrin	
Alkazyne	Cyanide.
	Toluene.
Alminocarb	
Amobam	
Amitraz	1,2-Dichloroethane.
	Cyanide.
AOP	
Aquatreat DNM 30	
Aspon	Toluene.
Atrazine	Cyanide.
	Carbon tetrachloride.
	Toluene.
Azinphos methyl	1,2-Dichloroethane.
Barban	Toluene.
	1,2-Dichloroethane.
BBTAC	
Bendiocarb	
Benfuracarb	
Benomyl	
Benquide	Benzene.
	Toluene.
Bentazon	Carbon tetrachloride.
	Chlorobenzene.
Benzethonium chloride	Toluene.
Benzyl benzoate	
Benzyl bromoacetate	Benzene.
	Toluene.
BHC	a-BHC-Alpha.
	b-BHC-Beta.
	d-BHC-Delta.
	g-BHC-Gamma.
	Benzene.
	Chlorobenzene.
Bifenox	Methyl chloride.
	2,4-Dichlorophenol
	Phenol.
Biphenyl	Benzene
Bolstar	Toluene
	2,4-Dichlorophenol
	Phenol.
Bromacil	Methylene chloride
Bromoxynil	Benzene.
	Toluene
Bromoxynil octanoate	Benzene.
	Toluene
Busan 40	
Busan 55	
Busan 90	1,2-Dichloroethane
	Methylene chloride
	Phenol.
Butachlor	1,2-Dichloroethane
Butylate	Methylene chloride
Captafol	Toluene.
	Tetrachloroethylene
Captan	
Carbam-S	
Carbaryl	Toluene
Carbendazim	
Carbofuran	Methylene chloride
Carbophenothion	Benzene.
	Chlorobenzene
Chlormebon	
Chlordane	Hexachlorocyclopentadiene
	Heptachlor
Chlorobenzilate	Benzene.
	Chlorobenzene
Chloroneb	Cyanide.
Chloropicrin	
Chlorothalonil	Tetrachloroethylene
	Cyanide.
	Carbon tetrachloride
Chlorpropham	1,2-Dichloroethane.
	Tetrachloroethylene.
Chlorpyrifos	Methylene chloride
Chlorpyrifos methyl	Methylene chloride
Coumachlor	
Coumafuryl	
Coumaphos	
Coumatetralyl	
Cyanazine	Cyanide.
Cycate	Methylene chloride
Cycloheximide	Methylene chloride
Cycloate	Toluene.
Cyhexatin	Benzene.
	Toluene.
Cypermethrin	Benzene.
	Toluene.
2,4-D	2,4-Dichlorophenol
	Phenol.
	Toluene (trans-4 and 5 phenyl)
2,4-D butyl ester	2,4-Dichlorophenol
2,4-D isooctyl ester	2,4-Dichlorophenol (trans-4 and 5 phenyl)
2,4-D salt	
Dalapon	
Dazomet	
2,4-DB	Methylene chloride.
	2,4-Dichlorophenol
	Phenol.
2,4-DB butyl ester	
2,4-DB isooctyl ester	
DBCP	
DCNA	
DCPA	Carbon tetrachloride.
	Benzene.
	Toluene.
D-D	
DDD	Chlorobenzene.
DDE	Chlorobenzene.
	Chlorobenzene.
DDT	Benzene.
Deet	Benzene.
	Toluene.
Demeton	Toluene.
Demeton-a	Toluene.
	Copper.
Demeton-s	Copper
	Toluene.
Diazinon	Toluene.
Dicamba	Methyl chloride.
	2,4-Dichlorophenol
	Benzene.
	Toluene.
Dichlofenthion	2,4-Dichlorophenol.
	Phenol.
Dichlorobenzene, ortho	Chlorobenzene.
	1,2-Dichlorobenzene
Dichlorobenzene, para	Chlorobenzene.
	1,4-Dichlorobenzene.
Dichloroethyl ether	Bis(2-chloroethyl) ether
Dichlorophen	Phenol.
	Toluene
Dichlorophen salt	
Dichloropropene	1,3-Dichloropropene.
Dichlorprop	Phenol.
	1,4-Dichlorophenol.
Dichlorvos	Methyl chloride.
Dicofol	1,2-Dichloroethane.
	Chlorobenzene.
	Toluene.
	Cyanide.
Dienochlor	Hexachlorocyclopentadiene.
	Copper
	Toluene.
Dimethoxane	
Dinocap	2,4-Dinitrophenol
	4-Nitrophenol
	Phenol.
Dinoseb	Phenol
	2,4-Dinitrophenol.
Dioxathion	Benzene.
Diphenamid	Benzene
Diphenylamine	
Disulfoton	Toluene
Diuron	Chlorobenzene
	Carbon tetrachloride.
Dodine	Cyanide
Dowicil 75	
Endosulfan	Hexachlorocyclopentadiene
	a-Endosulfan-Alpha.
	b-Endosulfan-Beta.
	Benzene
	Toluene
Endothall	
Endrin	Hexachlorocyclopentadiene
	Endrin.
EPN	4-Nitrophenol
	Phenol
	Toluene
EPTC	Methylene chloride
Ethalfluralin	
Ethion	Methylene chloride
	Methyl bromide
	Toluene
Ethoprop	
Ethoxyquin 56%	
Ethoxyquin 86%	
Ethylene dibromide	
Etridiazole	Chloroform
EXD	
Famphur	Benzene
	Toluene
Fenarimol	Chlorobenzene
	Toluene.
Ferbamate	Copper (plant 3 only)
	Toluene
Ferbasulfate	Copper
	Toluene.
Fenitrion	Toluene
Ferric hydroxide	Chlorobenzene
	Phenol
Fenuron	
Fenuron-TCA	Benzene.
	Toluene.
Ferbam	
Fluchloralin	
Fluridone	Chloroform
	Toluene.
Fluometuron	Cyanide.
Fluoroacetamide	
Folpet	
Fonofos	Toluene.
	Phenol.
Gi-gard	Toluene.
Glyodin	
Glyphosate	
HAE	
HAMP	
Heptachlor	Hexachlorocyclopentadiene
	Carbon tetrachloride.
	Heptachlor.
Hexachlorophene	1,2-Dichloroethane
	Phenol.
	2,4-Dichlorophenol
Hexazinone	Toluene.
HPTMS	
Hyamine 2389	Toluene.
Hyamine 3500	
Isopropalin	
Kathon 886	Toluene
Kinoprene	
KN methyl	
Lethane 384	Cyanide.
Lindane	a-BHC-Alpha.
	b-BHC-Beta.
	d-BHC-Delta.
	g-BHC-Gamma.
	Benzene.
	Chlorobenzene.
Linuron	Chlorobenzene.
	Carbon tetrachloride
Malathion	Toluene.
Maleic hydrazide	
Mancozeb	Zinc
Maneb	Zinc (plant 3 only)
MCPA	Phenol.
	Toluene
MCPA isooctyl ester	
MCPP (Mecoprop)	Phenol.
	Toluene
Metaldehyde	Toluene
Metolachlor	
Metasol DGH	Cyanide.
Metasol J-26	
Metham	
Methamidophos	1,2-Dichloroethane
Methiocarb	
Methomyl	Methylene chloride.
Methoprene	

Column A	Column B
Pesticide active ingredient	Priority pollutant requested
Methoxychlor	Phenol.
Methylbenzethonium chloride	Toluene.
Methyl bromide	Methyl bromide.
Methylene bisthiocyanate	Cyanide.
	Methyl bromide.
	Methylene chloride
Metribuzin	Methyl bromide.
Mevinphos	Methyl chloride.
Mexacarbate	
MGK 264	Toluene.
MGK 326	Benzene.
Mirex	Hexachlorocyclopentadiene.
Molinate	Methylene chloride.
Monocrotophos	Chloroform
	Copper
Mon	
Monuron-TCA	Benzene.
	Toluene.
Nabam	
Naboneate	Cyanide.
Naled	Carbon tetrachloride
1,8-Naphthalic anhydride	
Naproanilide	Toluene.
	Chlorobenzene.
Naptalam	Benzene.
	Toluene.
Neburon	Carbon tetrachloride
	Chlorobenzene.
Niacide	
Nitrofen	2,4-Dichlorophenol
	4-Nitrophenol.
	Benzene.
NM	Toluene.
Nomurazon	
Octhilinone	
Oryzalin	Toluene.
Oxamyl	
Oxydemeton	Toluene.
	Copper
Oxyfluorfen	Tetrachloroethylene
Paraquat	Methyl chloride
Parathion ethyl	4-Nitrophenol.
	Benzene.
	Toluene.
Parathion methyl	4-Nitrophenol
	Benzene.
	Toluene.
PBED	1,2-dichloroethane
PCNB	Pentachlorophenol.
	1,2,4-trichlorobenzene
PCP	Pentachlorophenol
	Phenol.
PCP salt	Phenol.
	Pentachlorophenol
Pebulate	Methylene chloride
	Zinc.
Pendimethalin	Benzene.
	Toluene.
Pentachlorophenol	
Permethrin	
Perthane	
Phenylphenol	Phenol.
	Benzene.
	Chlorobenzene
Phenylphenol sodium salt	Phenol.
	Benzene.
	Chlorobenzene
Phorate	
Phosfolan	Toluene
Phosphet	Benzene.
Picloram	Cyanide.
	Carbon tetrachloride.
Pindone	Benzene (plant 12 only)
Piperazine	Chlorobenzene
	Toluene.
Piperonyl butoxide	
Piperophos aromatics	
Propham	Benzene
	Toluene.
Propiconazole	Cyanide
	Toluene.
Propoxur	Cyanide
	Toluene.
Propyzamide	Toluene.
Prosulfocarb	1,2-Dichloroethane
Prometon	Toluene (plants 14 and 15 only)
Propergite	
Prometryn	Cyanide.
	Carbon tetrachloride (plant 16 only).
Propham	
Propionic acid	
Propoxur	
Pyrethrins	
5-Quinolinol citrate	
5-Quinolinol sulfate	
Quinomethionate	

Column A	Column B
Pesticide active ingredient	Priority pollutant requested
Resmethrin	Toluene.
RH-787	
Ronnel	2,4-Dichlorophenol
	Phenol.
Rotenone	Toluene.
Siduron	
Silvex	2,4-Dichlorophenol
	Phenol.
	Toluene (plant 17 only)
Silvex isooctyl ester	
Silvex salt	
Simazine	Cyanide.
	Carbon tetrachloride (plant 19 only).
	Toluene (plant 19 only)
Simetryne	Cyanide.
	Toluene
Sodium monofluoroacetate	
Sorolos	Methyl chloride.
Sulfallate	2,4-Dichlorophenol
Sulfoxide	
SvEP	Benzene
2,4,5-T	Phenol
	2,4-Dichlorophenol
	Toluene (plant 19 only)
TCMTB	Cyanide.
	Methylene chloride
Tebuthiuron	Toluene.
Temephos	1,2-Dichloroethane (plant 20 only).
	Toluene (plant 21 only).
Terbacil	Methylene chloride.
	Toluene.
Terbufos	
Terbutylazine	Cyanide.
Terbutryn	Cyanide.
	Toluene.
Thiabendazole	Cyanide.
Thiobencarb	
Thionazin	1,2-Dichloroethane.
Tokuthion	Phenol.
	2,4-Dichlorophenol.
	Toluene.
Toxaphene	Carbon tetrachloride.
	Toxaphene.
	Benzene (plant 22 only).
	Toluene (plant 22 only).
Triadimefon	Phenol.
Tributyltin benzoate	
Tributyltin fluoride	
Tributyltin oxide	
Trichlorobenzene	Benzene.
	Chlorobenzene.
	1,2,4-Trichlorobenzene.
Trichloronate	2,4-Dichlorophenol.
	Phenol.
	Toluene.
Tricyclazole	Benzene.
	Toluene.
Trifluralin	N-nitrosodi-n-propylamine.
Vancide TM	
Vancide 51Z	
Vancide 51Z dispersion	
Vancide PA	
Vancide	Methylene chloride.
Warfarin	
ZAC	Zinc.
Zineb	Zinc.
Ziram	Zinc (plants 23 and 24 only).

* Requested as a priority pollutant only in those processes in which it is a manufactured product

Appendix D.—Pesticides Regulated by PSES When Formulated and Packaged

Direct (NSPS) and Indirect Discharges (PSES/PSNS) of process wastewater resulting from the formulating and packaging of the following pesticides are regulated under Subpart C of this part:

1. Alachlor
2. Aldrin
3. Ametryn
4. Aminocarb
5. AOP
6. Atraton
7. Atrazine
8. Azinphos methyl
9. Barban
10. Benfluralin
11. Benomyl
12. Bentazon
13. a-BHC-Alpha
14. b-BHC-Beta
15. c-BHC-Delta
16. y-BHC Gamma (Lindane)
17. Bis(2-chloroethyl)ether
18. Bolstar
19. Bromacil
20. Busan 40
21. Busan 85
22. Butachlor
23. Captan
24. Carbam-S
25. Carbaryl
26. Carbendazim
27. Carbofuran
28. Carbophenothion
29. Chlordane
30. Chlorobenzene
31. Chlorobenzilate
32. Chloropropham
33. Chloropyrifos
34. Chloropyrifos methyl
35. Coumaphos
36. Cyanazine
37. 2,4-D and its salts and esters
38. 2,4-DB
39. 2,4-DB isobutyl ester
40. 2,4-DB isobutyl ester
41. DBCP
42. 4,4+-DDD
43. 4,4+-DDE
44. 4,4+-DDT
45. Deet
46. Demeton-O
47. Demeton-S
48. Demeton
49. Diazinon
50. Dicamba
51. Dichlofenthion
52. Dichloran
53. 1,2-Dichlorobenzene
54. 1,4-Dichlorobenzene
55. 1,2-Dichloropropane
56. Cis-1,3-Dichloropropene
57. trans-1,3-Dichloropropene
58. 1,3-Dichloropropene
59. Dichlorvos
60. Dicofol
61. Dieldrin
62. Dimethyl phthalate
63. Dinoseb
64. Dioxathion
65. Disulfoton
66. Diuron
67. Endosulfan I
68. Endosulfan II
69. Endosulfan sulfate
70. Endrin
71. Endrin aldehyde
72. Ethalfluralin
73. Ethion
74. Etridiazole
75. Fensulfothion
76. Fenthion
77. Fenuron
78. Fenuron-TCA
79. Ferbam
80. Fluometuron
81. Glyphosate
82. Heptachlor
83. Heptachlor epoxide
84. Hexachlorobenzene
85. Hexazinone
86. Isodrin
87. Isopropalin
88. KN Methyl
89. Linuron
90. Malathion
91. Mancozeb
92. Maneb
93. Mephosfolan
94. Metham
95. Methiocarb
96. Methomyl
97. Methoxychlor
98. Methylbromide
99. Metribuzin
100. Mevinphos
101. Mexacarbate
102. Mirex
103. Monuron
104. Monuron-TCA
105. NABAM
106. Naled
107. Napthalene
108. Neburon
109. Niacide
110. Oxamyl
111. Parathion methyl
112. Parathion ethyl
113. PCNB
114. Pentachlorophenol ("PCP")
115. PCP Salt
116. Perthane
117. Phorate
118. Profluraline
119. Prometon
120. Prometryn
121. Propachlor
122. Propazine
123. Propham
124. Propoxur
125. Ronnel
126. Secbumeton
127. Siduron
128. Simazine
129. Simetryne
130. Stirofos
131. Strobane
132. Swep
133. 2,4,5-T
134. 2,4,5-TP (Silvex) and its salts and esters
135. Terbacil
136. Terbufos
137. Terbuthylazine
138. Terbutryn
139. Toxaphene
140. Triadimefon
141. Trichlorobenzene
142. Trichloronate
143. Tricyclazole
144. Trifluralin
145. ZAC
146. Zineb
147. Ziram

Table 2.—List of Common Names and Chemical Names of Nonconventional Pesticide Pollutants

Common name	Chemical name
1. Alachlor (Lasso)	2-Chloro-2',6'-diethyl-N-(methoxymethyl) acetanilide.
2. Allyxamine hydrochloride	Allyxamine hydrochloride.
3. Ametryn (Evit)	2-Ethylamino-4-isopropylamino-6-methylthio, 1,3,5-triazine.
4. Aminocarb	4-Dimethylamino-3-methylphenyl-methyl-carbamate.
5. Amobam	Diammonium ethylenebisdithiocarbamate.
6. (AOP) (Ambam oxidation product)	Ethylene bis (dithiocarbamic acid) bimolecular and trimolecular cyclic anhydrosulfides and disulfides.
7. Atrazine (Aatrex)	2-Chloro-4-ethylamino-6-isopropylamino-1,3,5-triazine.
8. Azinphos methyl (Guthion)	O,O-Dethyl S-(4-oxo-1,2,3-benzotriazin-3(4H)-ylmethyl) phosphorodithioate.
9. Barban (Carbyne)	4-Chlorobut-2-butynyl-m-chlorocarbanilate.
10. 1,1'-(2-butenylene)bis (3,5,7-triaza-1-azo (neoadamantane Chloride) (BBTAC).	1,1'-(2-Butenylene) bis(3,5,7-triaza-1-azo neoadamantane chloride).
11. Benfluralin (Benefin)	N-Butyl-N-ethyl-2,6-dinitro-4-trifluoro-methylaniline.
12. Benomyl (Benlate)	Methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate.
13. Bentazon (Basagran)	3-Isopropyl-1H-2, 1,3-benzothiadiazon-(4) 3H-one 2, 2-dioxide.
14. Bioresmethrin (Dionerin)	Dionerin.
15. Bolstar (Suprastone)	O-Ethyl O-(4methylthiolphenyl)-s-propyl phosphorodithioate.
16. Bromacil (Hyvar)	5-Bromo-3-sec-butyl-6-methyl-uracil.
17. (Busan 40)	Potassium N-hydroxymethyl-N-methyldithio carbamate.
18. (Busan 85)	Potassium dimethyldithio carbamate.
19. Butachlor (Machete)	N-(Butoxymethyl)-2-chloro-2',6'-diethylacetanilide.
20. Captan (Orthocide 406)	N-((Trichloromethyl)thio)-4-cyclohexene-1,2-dicarboximide.
21. (Carbam-S) (Sesone)	Sodium dimethyldithiocarbamate.
22. Carbaryl (Sevin)	1-Naphthyl N-methylcarbamate.
23. Carbendazim	2-(Methoxycarbonylamino) benzimidazole.
24. Carbofuran (Furadan)	2,3-Dihydro-2,2-dimethyl-7-benzofuranyl methylcarbamate.
25. Carbophenothion (Trithion)	S-((p-Chlorophenylthio)methyl) O,O,-diethyl phosphorodithioate.
26. Chlorobenzilate (Acaricide)	Ethyl 4,4'-dichlorobenzilate.
27. Chloropicrin (Larvacide, Nemset)	Trichloronitromethane.
28. Chloroxuron	Isopropyl-3-chlorophenyl carbamate.
29. Chlorpyrifos (Dursban)	O,O-Diethyl O-(3,5,6-trichloro-2-pyridyl) phosphorothioate.
30. Chlorpyrifos methyl	O,O-Dimethyl O-(3,5,6-trichloro-2-pyridyl) phosphorothioate.
31. Coumaphos (Co-Ral)	O-(3-Chloro-4-methyl-2-oxo-2H-1-benzopyran-7-yl)O,O-diethyl phosphorothioate.
32. Cyanazine (Bladex)	2-[(4-Chloro-6-(ethylamino)-S-triazine-2-yl)amino]-2-Methylpropionitrile.
33. 2,4-D	2,4-Dichlorophenoxyacetic acid.
34. 2,4-D isobutyl ester	2,4-Dichlorophenoxyacetic acid, technical mixture, isobutyl ester, 60%, N-butyl ester, 40%
35. 2,4-D isooctyl ester	2,4-Dichlorophenoxyacetic acid isooctyl ester, 3,4-Dimethylheptanol, 20%; 3,5-Dimethylheptanol, 30%; 4,5-Dimethylheptanol, 30%, 3-Methylheptanol 15%, 5-Methylheptanol, 5%.
36. 2,4-D salt	2,4-Dichlorophenoxyacetic acid dimethylamine salt.
37. 2,4-DB	4-(2,4-Dichlorophenoxy)-butyricacid.
38. 2,4-DB isobutyl ester	4-(2,4-Dichlorophenoxy)-butyricacid isobutyl ester.
39. 2,4-DB isooctyl ester	4-(2,4-Dichlorophenoxy)-butyricacid isobutyl ester.
40. DBCP (Dibromochloro-pro-pane, Nemagon)	1,2-Dibromo-3-chloropropane and related halogenated C3 hydrocarbons.
41. DCNA (Dichloran, Botran)	2,6 Dichloro-4, nitroaniline.
42. D-D (Dichloropropane-dichloropropene mixture)	(65–65%) 1,3-dichloropropene and (30–35%) 1,2-Dichloropropane and other constituents.
43. Deet	N,N-Diethyl-m-toluamide.
44. Demeton (Systox)	Mixture of O,O-diethyl-S-and O)-(2-(ethylthio)ethyl) phosphorothioate.
45. Demeton-O	O,O-Diethyl O-[2-(ethylthio) ethyl] phosphorothioate.
46. Demeton-S	O,O-Diethyl S-(2-(ethylthio)ethyl) phosphorothioate.
47. Diazinon (Spectracide)	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate.
48. Dicamba (Banvel D)	2-Methoxy-3,6-dichlorobenzoic acid.
49. Dichlofenthion (Nemacide)	O-2,4-Dichlorophenyl O,O-diethyl phosphorothioate.
50. Dichlorophen salt	Sodium salt of 2,2'-methylene bis(4-chlorophenol).
51. Dichlorvos (DDVP)	2,2-Dichlorovinyl dimethyl phosphate.
52. Dicofol	1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethanol.
53. Dinoseb (DNBP)	2-(sec-Butyl)-4,6-dinitrophenol.
54. Dioxathion (Delnav)	S,S'-p-Dioxane-2,3-diyl O,O-diethyl-phosphorodithioate (cis and trans isomers).
55. Disulfoton (Di-Syston)	O,O-Diethyl S-[2-(ethylthio)-ethyl] phosphorodithioate.
56. Diuron (DCMU)	3-(3,4-Dichlorophenyl)-1-dimethylurea.
57. (Dowicil 75)	1-(3-Chloroallyl)-3,5,7-triaza-1-azonia-adamantane.
58. Ethalfluralin (Sonalan)	N-Ethyl-N-(2-methyl-2-propenyl)-2,6-dinitro-4-(trifluoromethyl) aniline.
59. Ethion	O,O,O'O-Tetraethyl S,S'-methylene bisphosphorodithioate.
60. Ethoprop (Mocap)	O-Ethyl S,S'dipropyl phosphorodithioate.
61. Etridiazole (Terrazole)	5-Ethoxy-3-trichloromethyl-1,2,4-thiadiazole.
62. Fenasulfothion (Dasanit)	O,O-Diethyl O-[p(methylsulfinyl) phenyl] phosphorothioate.
63. Fenthion (Baytex)	O,O-Dimethyl O-[4-(methylthio)-m-tolyl] phosphorothioate.
64. Fenuron	1,1-Dimethyl-3-phenylurea.
65. Fenuron-TCA	3-Phenyl-1, 1-dimethylurea trichloroacetate.
66. Ferbam (Fermate)	Ferric dimethyldithiocarbamate.
67. Fluometuron (Cotoran)	1,1-Dimethyl-3-(3-trifluoromethyl-phenyl) urea.
68. Fluoroacetamide	Fluoroacetamide.
69. Glyodin	2-Heptadecyl-2-imidazoline acetate.
70. Glyphosate (Roundup)	N-(Phosphonomethyl)glycine.
71. Hexazinone	3-Cyclohexyl-6-dimethylamino-1-methyl-1,3,5-triazine-2,4(1H, 3H)-dione.
72. HPTMS	S-(2-Hydroxy propyl) thiomethane Sulfonate.
73. Isocrotam (Pestan)	2,6-Dinitro-N, N-dipropylcumidine.
74. (KN methyl)	Potassium N-methyl dithiocarbamate.
75. Linuron (Afalon, Lorox)	3-(3,4-Dichlorophenyl)-1-methoxy-1-methylurea.
76. Malathion (Mercaptothion, Cythion)	Diethyl mercaptosuccinate S-ester with O,O-dimethyl phosphorodithioate.
77. Mancozeb (Dithane M-45)	Coordination product of maneb containing 16 to 20% Mn and 2.0 to 2.5% Zn (zinc (manganese)ethylenebis(dithiocarbamate).
78. Maneb (Manzate)	Manganous ethylene-1,2-bis-dithiocarbamate.
79. Mephosfolan (Cytrolane)	2,3-Diethyl cyclic propylene ester of phosphorodithioamido-carbonic acid.
80. Merphos (Folex)	Tributyl phosphorotrithioate.
81. (Metasol J-26)	N(1-Nitroethyl benzyl) ethylene diamine 25%.
82. Metham (Vapam, SMDC)	Sodium N-methyldithio carbamate.
83. Methiocarb	4-Methylthio-3,5-xylyl methyl-carbamate.
84. Methomyl (Lannate)	S-Methyl N-[(methylcarbamoyl)-oxy]thioacetimidate.
85. Methoxychlor (Marlate)	2,2-Bis(p-methoxyphenyl) 1,1,1-trichloroethane.
86. Metribuzin (Sencor)	4-Amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazine-5-one.
87. Mevinphos (Phosdrin)	Methyl 3-hydroxy-alpha-crotonate, dimethyl phosphate.
88. Mexacarbate	4-(Dimethylamino)-3,5-xylyl methyl carbamate.
89. Mirex	Dodecachloro-octahydro-1,3,4-methano-2H-cyclobuta(c,d)pentalene.
90. Monuron	3-(p-chlorophenyl)-1,1-dimethylurea.
91. Monuron-TCA	3-(p-chlorophenyl)-1,1-dimethylurea trichloroacetate.
92. Nabam (Dithane D-14)	Disodium ethylene bisdithiocarbamate.
93. Naled (Dibrom)	1,2-Dibromo-2,2-dichloroethyl dimethyl phosphate.
94. Neburon	1-n-butyl-3-(3,4-dichlorophenyl)-1-methylurea.
95. Niacide	Manganese dimethyldithiocarbamate.
96. Orthene (Acefate)	Methyl S,N-dimethyl-N-(methylcarbamoylmethyl)-1-thiophosphoramidate.
97. Parathion ethyl	O,O-Diethyl-O-p-nitrophenyl phosphorothioate.

Table 2.—List of Common Names and Chemical Names of Nonconventional Pesticide Pollutants—Continued

Common name	Chemical name
98. Parathion methyl	O,O-Dimethyl O-p-nitrophenyl phosphorothioate.
99. PCNB (Quintozene)	Pentachloronitrobenzene.
100. PCP salt	2,3,4,5,6-Pentachlorophenate.
101. Perthane	1,1-Dichloro-2,2-bis(p-ethylphenyl) ethane.
102. Phorate (Thimet)	O,O-Diethyl S-[(ethylthio)-methyl] phosphorodithioate.
103. Profluralin (Tolban)	N-Cyclopropylmethyl-2,6-dinitro-N-propyl-4-trifluoromethyl-aniline.
104. Prometon (Pramitol)	2,4-Bis(isopropylamino)-6-methoxy-s-triazine.
105. Prometryn (Caparol)	2,4-Bis(isopropylamino)-6-methylthio)-S-triazine.
106. Propachlor (Ramrod)	2-Chloro-N-isopropylacetanilide.
107. Propazine (Milogard)	2-Chloro-4,6-bis(isopropylamino)-s-triazine.
108. Propham	isopropyl carbanilate.
109. Propoxur	O-Isopropoxyphenyl methylcarbamate.
110. Pyrethrins	Standardized mixture of pyrethrins I and II (mixed esters of pyrethrolone.
111. Ronnel (Fenchlorphos)	O,O-Dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate.
112. Siduron (Tupersan)	1-(2-Methylcyclohexyl)-3-phenylurea.
113. Silvex (Fenoprop)	2-(2,4,5-Trichlorophenoxy) propionic acid.
114. Silvex isooctyl ester	Isooctyl ester of 2-(2,4,5-trichlorophenoxy) propionic acid.
115. Silvex salt	Dimethyl amine salt of 2-(2,4,5-trichlorophenoxy) propionic acid.
116. Simazine (Princep)	2-Chloro-4,6-bis(ethyl-amino)-s-triazine.
117. Simetryn (Gybon)	2-Methylthio-4,6-bis(ethyl-amino)-s-triazine.
118. Sodium monofluoroacetate	Sodium monofluoroacetate.
119. Strobos (Terraclor-vinophos)	2-Chloro-1-(2,4,5-trichlorophenyl) vinyl dimethyl phosphate.
120. Swep	Methyl N-(3,4-dichlorophenyl) carbamate.
121. 2,4,5-T	2,4,5-Trichlorophenoxyacetic acid.
122. Terbacil (Sinbar)	3-(tert-Butyl)-5-chloro-6-methyl uracil.
123. Terbufos (Counter)	S-tert-Butylthiomethyl O,O-dimethyl phosphorodithioate.
124. Terbuthylazine (GS 13529)	2-tert-Butylamino-4-chloro-6-ethylamino-1,3,5-triazine.
125. Terbutryn (Igran)	2-(tert-Butylamino)-4-(ethylamino)-6-(methylthio)-s-triazine.
126. Triadimefon (Bayleton)	1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1,2,4-triazol-1-yl) butan-2-one.
127. Tributyrin benzoate	Tributyrin benzoate.
128. Tributyrin oxide	Bis(tri-n-butyrin) oxide.
129. Trichloronate	O-ethyl O-(2,4,5-trichlorophenyl) ethylphosphorothioate.
130. Tricyclazole	5-Methyl-1,2,4-triazolo (3A-b) Benzothiazole.
131. Trifluralin (Treflan)	α,α,α-Trifluoro-2,6-dinitro-N,N-Dipropyl-p-toluidine.
132. (Vancide TH)	Hexahydro-1,3,5-trethyl-s-triazine.
133. (Vancide 51Z)	Zinc dimethyldithiocarbamate and Zinc 2-mercaptobenzo-thiazole.
134. (Vancide 51Z dispersion)	50% Zinc dimethyldithiocarbamate and Zinc 2-mercaptobenzothiazole 50% water
135. (ZAC) (zinc ammonium carbonate)	Ammoniates (ethylenebis (dithiocarbamate))-zinc.
136. Zineb	Zinc ethylenebisdithiocarbamate.
137. Ziram (Vancide MZ-96)	Zinc dimethyldithiocarbamate.

40 CFR PART 419

PETROLEUM REFINING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Petroleum Refining category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with the pretreatment standards for this category. Petroleum Refining categorical standards were established by the Environmental Protection Agency in Part 419 of Title 40 of the Code of Federal Regulations (40 CFR 419). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	December 21, 1979	Vol. 44, p. 75926
Final Rule	October 18, 1982	Vol. 47, p. 46434
Final Rule	July 12, 1985	Vol. 50, p. 28516
Correction	August 12, 1985	Vol. 50, p. 32414

APPLICATION DATES

Effective Date: December 1, 1982
Baseline Monitoring Report (BMR) Due Date: May 30, 1983
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): December 1, 1985
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES

The Petroleum Refining industrial category is divided into five subcategories: Topping, Cracking, Petrochemical, Lube, and Integrated Facilities. These subcategories generally represent a spectrum of progressively integrated petroleum refining facilities, i.e., a scale of fewest to most unit processes.

The Topping Subcategory includes discharges from any facility that produces petroleum products by topping and catalytic reforming, regardless of whether the facility uses any additional process. These standards do not apply to facilities that have thermal processes (coking, vis-breaking, etc.) or catalytic cracking.

The Cracking Subcategory includes all discharges from facilities that produce petroleum products by topping and cracking, regardless of whether the facility uses any additional processes. These standards do not apply to facilities in the Petrochemical, Lube, and Integrated Facilities subcategories.

The Petrochemical Subcategory applies to all discharges from facilities that produce petroleum products by topping, cracking, and petrochemical operations, regardless of whether the facility uses any additional processes. The standards for this subcategory do not apply to facilities in the Lube and Integrated Facilities subcategories.

The Lube Subcategory applies to all discharges from any facility that produces petroleum products by cracking, topping, and lube oil manufacturing processes, regardless of whether the facility uses any additional processes. The standards for this subcategory do not apply to facilities in the Petrochemical and Integrated Facilities subcategories.

The Integrated Facilities Subcategory applies to all discharges resulting from any facility that produces petroleum products by topping, cracking, lube oil manufacturing, and petrochemical operations, regardless of whether the facility uses any additional processes.

REGULATED POLLUTANTS

The pollutants regulated under the PSES for all five subcategories of the Petroleum Refining category are oil and grease and ammonia (as N). The PSNS set limits for oil and grease, ammonia (as N), and total chromium for all five subcategories.

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

The PSES for the Petroleum Refining category are summarized below. These standards are identical for all five industry subcategories.

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)
Oil and Grease	100
Ammonia (as N)	100

For ammonia (as N), where the discharge to the POTW consists solely of sour waters, the owner or operator has the option of complying with the limit shown above or with the daily maximum mass limit for ammonia. The ammonia mass-based limit is different for each of the five industry subcategories. The procedure for determining the daily maximum mass limits for ammonia is described in a subsequent section of this summary.

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

The PSNS for the Petroleum Refining category are summarized below. These standards are identical for all five industry subcategories.

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)
Oil and Grease	100
Ammonia (as N)	100
Total Chromium	1*

*This standard is applied to the cooling tower discharge portion of the total refinery wastewater flow to the POTW. It is multiplied by the total refinery flow to the POTW and by the ratio of cooling tower discharge flow to the total refinery flow.

For ammonia (as N), where the discharge to the POTW consists solely of sour waters, the owner or operator has the option of complying with the limit shown above or with the daily maximum mass limit for ammonia described in the following section.

DETERMINING THE DAILY MAXIMUM MASS LIMITATION FOR AMMONIA

When a petroleum refinery's discharge to the POTW consists solely of sour waters, the owner or operator has the option of complying with the ammonia (as N) concentration limit for any one day, or with the daily maximum mass limit for ammonia.

To calculate the daily maximum mass limit for ammonia from either an existing or new source, three factors must be multiplied together. The unadjusted ammonia effluent limit for the subcategory must be multiplied by a facility size factor and by a facility process factor. The derivation of each of these three factors is described below.

The unadjusted ammonia effluent limit, measured in kilograms per 1,000 cubic meters of feedstock, can be obtained for each of the five industry subcategories from the following table.

Unadjusted Ammonia Effluent Limits
(kg/1,000 m^3 of feedstock)

Subcategory	Maximum for Any One Day	
	Existing Sources	New Sources
A. Topping	2.81	2.8
B. Cracking	18.8	18.8
C. Petrochemical	23.4	23.4
D. Lube	23.4	23.4
E. Integrated Facilities	23.4	23.4

The facility size factors correspond to feedstock volumes, which in turn are measured in intervals of thousands of barrels per refining stream per day. The facility size factors for each of the five industry subcategories can be obtained from the following table.

Size Factors by Subcategory (New and Existing Sources)

1,000 Barrels of Feedstock per Stream-Day	Topping Size Factor	Cracking Size Factor	Petrochemical Size Factor	Lube Size Factor	Integrated Facilities Size Factor
Less than 24.9	1.02	0.91	0.73	0.71	0.73
25.0 to 49.9	1.06	0.95	0.76	0.71	0.73
50.0 to 74.9	1.16	1.04	0.83	0.74	0.73
75.0 to 99.9	1.26	1.13	0.91	0.81	0.73
100.0 to 124.9	1.38	1.23	0.99	0.88	0.73
125.0 to 149.9	1.50	1.35	1.08	0.97	0.76
150.0 to 174.9	1.57	1.41	1.13	1.05	0.83
175.0 to 199.9	1.57	1.41	1.13	1.14	0.91
200.0 to 224.9	1.57	1.41	1.13	1.19	0.99
225.0 or greater	1.57	1.41	1.13	1.19	1.04

The facility process factor can be determined through a four-step process.

1. Determine the refinery's total capacity in barrels per day; identify the processes applicable to the refinery and their corresponding weighting factors from the following table; and determine the capacity of each process (in barrels per day, divided by 1,000).

Process Category	Processes Included	Weighting Factor
Crude	Desalting Atmospheric distillation Vacuum crude distillation	1
Cracking and Coking	Fluid catalytic cracking Thermofor Houdriflow Gas-oil cracking Visbreaking Fluid coking Delayed coking	6
Lube	Lube hydrofining White oil manufacturing Propane dewaxing, deasphalting Duo sol, solvent dewaxing Lube vacuum tower, wax fractionating Centrifuging and chilling MEK dewaxing Deoiling (wax) Naphthenic lube production SO_2 extraction Wax pressing	13

Process Category	Processes Included	Weighting Factor
Lube (Continued)	Wax plant (with neutral separation) Furfural extraction Clay contacting--percolation Wax sweating Acid treating Phenol extraction	
Asphalt	Asphalt production Asphalt oxidation Asphalt emulsifying	12

2. For each of the refinery's processes, multiply the process capacity by the ratio of process capacity to refinery throughput and by the process weighting factor.

3. Add the results of the calculations for each of the refinery's processes to obtain the process configuration factor for the refinery.

4. Obtain the process factor corresponding to the refinery's process configuration factor and industry subcategory, shown in the following table.

Process Factors By Subcategory (New and Existing Sources)

Process Configuration	Topping Process Factor	Cracking Process Factor	Petrochemical Process Factor	Lube Process Factor	Integrated Facilities Process Factor
Less than 2.49	0.62	0.58	0.73	0.81	0.75
2.5 to 3.49	0.67	0.63	0.73	0.81	0.75
3.5 to 4.49	0.80	0.74	0.73	0.81	0.75
4.5 to 5.49	0.95	0.88	0.80	0.81	0.75
5.5 to 5.99	1.07	1.00	0.91	0.81	0.75
6.0 to 6.49	1.17	1.09	0.99	0.81	0.75
6.5 to 6.99	1.27	1.19	1.08	0.88	0.82
7.0 to 7.49	1.39	1.29	1.17	0.88	0.82
7.5 to 7.99	1.51	1.41	1.28	1.00	0.92
8.0 to 8.49	1.64	1.53	1.39	1.09	1.00
8.5 to 8.99	1.79	1.67	1.51	1.19	1.10
9.0 to 9.49	1.95	1.82	1.65	1.29	1.20
9.5 to 9.99	2.12	1.89	1.72	1.41	1.30
10.0 to 10.49	2.31	1.89	1.72	1.53	1.42
10.5 to 10.99	2.51	1.89	1.72	1.67	1.54
11.0 to 11.49	2.73	1.89	1.72	1.82	1.68
11.5 to 11.99	2.98	1.89	1.72	1.98	1.83
12.0 to 12.49	3.24	1.89	1.72	2.15	1.99
12.5 to 12.99	3.53	1.89	1.72	2.34	2.17
13.0 to 13.49	3.84	1.89	1.72	2.44	2.26
13.5 to 13.99	4.18	1.89	1.72	2.44	2.26
14.0 or greater	4.36	1.89	1.72	2.44	2.26

40 CFR PART 439

PHARMACEUTICAL MANUFACTURING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Pharmaceutical Manufacturing category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this industrial category. The Pharmaceutical Manufacturing categorical standards were established by the Environmental Protection Agency in Part 439 of Title 40 of the Code of Federal Regulations (40 CFR 439). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	November 26, 1982	Vol. 47, p. 53584
Final Rule	October 27, 1983	Vol. 48, p. 49808
Amendment	May 1, 1985	Vol. 50, p. 18486

APPLICABLE DATES

Effective Date: December 12, 1983
Baseline Monitoring Report (BMR) Due Date: June 9, 1984
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): October 27, 1986
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Pharmaceutical Manufacturing category originally contained five subcategories. However, Subcategory E (Research) was excluded from pretreatment standards since pharmaceutical research does not involve production or generate wastewater in appreciable quantities on a regular basis. The remaining subcategories are:

- o Subcategory A - Fermentation Products
- o Subcategory B - Extraction Products
- o Subcategory C - Chemical Synthesis Products
- o Subcategory D - Mixing/Compounding and Formulation

The pharmaceutical products, processes, and activities regulated under these subcategories include:

- Biological products (SIC 2831)
- Medicinal chemicals and botanical product (SIC 2833)
- Pharmaceutical products (SIC 2834)
- All fermentation, biological, and natural extraction, chemical synthesis, and formulation products that are considered as pharmaceutically active ingredients by the FDA, but are not classified under SIC 2831, 2833, or 2834
- Cosmetic preparations that function as a skin treatment (SIC 2844)
- Products with multiple end uses that are attributable to pharmaceutical manufacturing as a final pharmaceutical product, component of a pharmaceutical formulation, or pharmaceutical intermediate.

Products that have non-pharmaceutical uses may also be covered by the pharmaceutical standard if the products are primarily intended for use as pharmaceuticals.

REGULATED POLLUTANTS

The only pollutant regulated by the Pharmaceutical Manufacturing categorical standards is cyanide. Industries must conduct self-monitoring for cyanide after cyanide treatment and before dilution with other streams unless the cyanide standard is adjusted. The basis for adjustment is the dilution ratio of the cyanide contaminated wastestream flow to the total process wastewater. Self-monitoring is to be conducted on effluent from the cyanide destruction unit only if all cyanide-bearing wastewater is treated by the unit. If not, self-monitoring must be conducted at the final effluent point based on the adjusted cyanide standard. The control authority may exempt indirect dischargers from the monitoring requirements if the dischargers certify to the control authority that they are not using or generating cyanide.

The following pretreatment standards are applicable to both existing and new sources in all subcategories.

PRETREATMENT STANDARDS FOR EXISTING AND NEW SOURCES (PSES AND PSNS)

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Total Cyanide	33.5	9.4

40 CFR PART 463

PLASTICS MOLDING AND FORMING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms in the Plastics Molding and Forming category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards. The Plastics Molding and Forming category was established by the Environmental Protection Agency under Part 463 of Title 40 of the Code of Federal Regulations (40 CFR 463). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	February 15, 1984	Vol. 49, p. 5862
Final Rule	December 17, 1984	Vol. 49, p. 49026
Correction	April 30, 1985	Vol. 50, p. 18248

APPLICABLE DATES

Effective Date: January 30, 1985
Compliance Dates: --

SUBCATEGORIES AND SIC CODES

The Plastics Molding and Forming category is comprised of firms that blend, mold, form, or otherwise process plastic materials into intermediate or final plastic products. The category is divided into three subcategories: (A) Contact Cooling and Heating Water, (B) Cleaning Water, and (C) Finishing Water. Companies in the Plastics Molding and Forming industry category are generally included under Standard Industrial Classification (SIC) Code 3079[1].

PRETREATMENT STANDARDS FOR EXISTING AND NEW SOURCES (PSES AND PSNS)

No numerical pretreatment standards were established for existing or new sources in this industrial category.

SUBCATEGORY A - CONTACT COOLING AND HEATING WATER

All existing and new firms must comply with the General Pretreatment Regulations in 40 CFR 403.

[1]Processes under this SIC code are listed separately as 3081, 3082, 3083, 3084, 3085, 3086, 3087, 3088, and 3089.

SUBCATEGORY B - CLEANING WATER

All existing and new firms must comply with the General Pretreatment Regulations in 40 CFR 403.

SUBCATEGORY C - FINISHING WATER

All existing and new firms must comply with the General Pretreatment Regulations in 40 CFR 403.

40 CFR PART 466

PORCELAIN ENAMELING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Porcelain Enameling category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with standards for this industrial category. The Porcelain Enameling standards were established by the Environmental Protection Agency in Part 466 of Title 40 of the Code of Federal Regulations (40 CFR 466). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations and the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	January 27, 1981	Vol. 46, p. 8860
Final Rule	November 24, 1982	Vol. 47, p. 53172
Amendment	July 8, 1983	Vol. 48, p. 31403
Amendment	September 15, 1983	Vol. 48, p. 41409
Final Rule-Amendment	September 6, 1985	Vol. 50, p. 36540

APPLICABLE DATES

Effective Date: January 7, 1983
Baseline Monitoring Report (BMR) Due Date: July 6, 1983
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): November 25, 1985
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES

The Porcelain Enameling category is composed of firms that apply a thermally-fused glass-like coating to a metal basis material. For the purposes of this regulation, the industry has been divided into four subcategories: Steel Basis Material, Cast Iron Basis Material, Aluminum Basis Material, and Copper Basis Material.

EPA decided against regulating porcelain enameling of precious metals. The pieces enameled are typically quite small (e.g., dental crowns), and the enameling is conducted by small indirect dischargers (e.g., dental laboratories) that would be exempt from categorical standards. EPA has also exempted facilities that prepare or coat less than 1,600 m^2 of material a day and discharge less than 60,000 liters (15,600 gallons) of wastewater daily.

SIC CODES

Industries in the following SIC codes may be regulated under the Porcelain Enameling standards. Note that these SIC codes are tentative until EPA makes a final determination.

Subcategory	SIC Codes
Steel Basis Material	3431, 3469, 3479, 3631, 3632, 3633, 3639
Cast Iron Basis Material	3431, 3631
Aluminum Basis Material	3469, 3479, 3631
Copper Basis Material	3469, 3479, 3631

REGULATED POLLUTANTS

The Porcelain Enameling standards provide concentration-based and alternative mass-based limits for chromium, lead, nickel, and zinc. Facilities that meet both of the following conditions may be exempt from the chromium monitoring requirements:

(1) The first wastewater sample collected and analyzed in each calendar year contains less than 0.08 mg/l of chromium.

(2) The owner or operator of the facility certifies in writing to the Control Authority that chromium is not present in the facility's raw materials or process chemicals used at the facility and will not be used in its operations.

For operations regulated under Subcategory B, no process wastewater is allowed to be discharged from metal preparation processes.

SUBCATEGORY A - STEEL BASIS MATERIAL

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Maximum Monthly Average (mg/l)
Chromium	0.42	0.17
Lead	0.15	0.13
Nickel	1.41	1.00
Zinc	1.33	0.56

PSES MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/m^2 of area processed)		Maximum Monthly Average (mg/m^2 of area processed)	
	Metal Preparation	Coating Operations	Metal Preparation	Coating Operations
Chromium	16.82	0.53	6.81	0.22
Lead	6.01	0.19	5.21	0.16
Nickel	56.5	1.78	40.1	1.26
Zinc	53.3	1.68	22.5	0.71

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Pollutant or Pollutant Property	Maximum for Any One Day (mg/m^2 of area processed)		Maximum Monthly Average (mg/m^2 of area processed)	
	Metal Preparation	Coating Operations	Metal Preparation	Coating Operations
Chromium	3.70	0.47	1.50	0.19
Lead	1.00	0.13	0.90	0.11
Nickel	12.00	1.51	6.30	0.79
Zinc	10.20	1.29	4.20	0.53

SUBCATEGORY B - CAST IRON BASIS MATERIAL (COATING OPERATIONS ONLY)*

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Maximum Monthly Average (mg/l)
Chromium	0.42	0.17
Lead	0.15	0.13
Nickel	1.41	1.00
Zinc	1.33	0.56

*No discharge of process wastewater pollutants from metal preparation operations is allowed.

PSES MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/m^2 of area processed)	Maximum Monthly Average (mg/m^2 of area processed)
Chromium	0.53	0.22
Lead	0.19	0.16
Nickel	1.78	1.26
Zinc	1.68	0.71

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/m^2 of area processed)	Maximum Monthly Average (mg/m^2 of area processed)
Chromium	0.47	0.19
Lead	0.13	0.11
Nickel	0.69	0.47
Zinc	1.29	0.53

SUBCATEGORY C - ALUMINUM BASIS MATERIAL

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Maximum Monthly Average (mg/l)
Chromium	0.42	0.17
Lead	0.15	0.13
Nickel	1.41	1.00
Zinc	1.33	0.56

PSES MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/m^2 of area processed)		Maximum Monthly Average (mg/m^2 of area processed)	
	Metal Preparation	Coating Operations	Metal Preparation	Coating Operations
Chromium	16.34	0.53	6.62	0.22
Lead	5.84	0.19	5.06	0.16
Nickel	54.85	1.78	38.90	1.26
Zinc	51.74	1.68	21.79	1.71

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/m^2 of area processed)		Maximum Monthly Average (mg/m^2 of area processed)	
	Metal Preparation	Coating Operations	Metal Preparation	Coating Operations
Chromium	3.60	0.47	1.46	0.19
Lead	0.97	0.13	0.88	0.11
Nickel	5.35	0.69	3.60	0.47
Zinc	9.92	1.29	4.09	0.53

SUBCATEGORY D - COPPER BASIS MATERIAL

PSES - Reserved

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

	Maximum for Any One Day (mg/m^2 of area processed or coated)		Maximum Monthly Average (mg/m^2 of area processed or coated)	
Pollutant or Pollutant Property	Metal Preparation	Coating Operations	Metal Preparation	Coating Operations
Chromium	6.23	0.46	2.52	0.19
Lead	1.69	0.13	1.52	0.11
Nickel	9.25	0.69	6.23	0.47
Zinc	17.16	1.29	7.07	0.53

40 CFR PARTS 430 AND 431

PULP, PAPER, AND PAPERBOARD

AND BUILDERS' PAPER AND BOARD MILLS

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Pulp, Paper, and Paperboard and Builders' Paper and Board Mills categories (hereafter referred to as the Pulp, Paper, and Paperboard category) and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with standards for this industrial category. Federal standards for the Pulp, Paper, and Paperboard category were established by the Environmental Protection Agency in Parts 430 and 431 of Title 40 of the Code of Federal Regulations (40 CFR 430 and 431). This summary is not intended to substitute for the regulations published in the Federal Register or the Code of Federal Regulations. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	January 6, 1981	Vol. 46, p. 1430
Final Rule	November 18, 1982	Vol. 47, p. 52006
Proposed Rule, PCB	November 18, 1982	Vol. 47, p. 52066
Correction	March 30, 1983	Vol. 48, p. 13176
Amendment	July 8, 1983	Vol. 48, p. 31403
Notice of Petition Denial	October 16, 1984	Vol. 49, p. 40546

APPLICABLE DATES

Effective Date: January 3, 1983
Baseline Monitoring Report (BMR) Due Date: July 2, 1983
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): July 1, 1984
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Pulp, Paper, and Paperboard category (Parts 430 and 431) is divided into 25 subcategories, based on different processes and products.[1] Several subcategories are further divided along process or product lines. The subcategories in Parts 430 and 431 are shown in the following table.

[1] Part 431 is regulated as a single subcategory.

A cont.)

Subcategories	SIC Codes
Part 430	
A. Unbleached Kraft	2611, 2621, 2631
B. Semi-chemical	2611, 2621, 2631
C. Reserved	
D. Unbleached Kraft - Neutral Sulfite Semi-Chemical (Cross Recovery)	2611, 2621, 2631
E. Paperboard from Wastepaper	2631
F. Dissolving Kraft	2611
G. Market Bleached Kraft	2611
H. Board, Course, and Tissue (BCT) Bleached Kraft	2611, 2621 2631
I. Fine Bleached Kraft	2611, 2621
J. Papergrade Sulfite (Blow Pit Wash)	2611, 2621
K. Dissolving Sulfite Pulp	2611
L. Groundwood-Chemi-mechanical	2611, 2621
M. Groundwood-Thermo-mechanical	2611, 2621
N. Groundwood-Course, Molded, and News (CMN) Papers	2611, 2621
O. Groundwood-Fine Papers	2611, 2621
P. Soda	2611, 2621
Q. Deink	2621
R. Nonintegrated-Fine Papers	2621
S. Nonintegrated-Tissue Papers	2631
T. Tissue From Wastepaper	2647
U. Papergrade Sulfite (Drum Wash)	2611, 2621
V. Unbleached Kraft and Semi-chemical*	2611, 2621, 2631
W. Wastepaper Molded Products	2646
X. Nonintegrated-Lightweight Papers	2621
Y. Nonintegrated-Filter and Non-woven Papers	2621
Z. Nonintegrated Paperboard	2631
Part 431	
A. Builders' Paper and Roofing Felt	2661[1]

Note that all SIC codes are tentative until EPA makes a final determination.

*Includes all mills in Subcategory D.

[1]SIC 2661 has been dropped from the list and replaced with 2493 and 2621.

REGULATED POLLUTANTS

The pollutants regulated by the Pulp, Paper, and Paperboard categorical standards are pentachlorophenol, trichlorophenol, and zinc. Standards for pentachlorophenol and trichlorophenol have been promulgated for 24 of the 25 subcategories (standards for subcategory L are currently reserved), and apply to all new or existing sources in these subcategories that use chlorophenolic-containing biocides. Control authorities may exempt facilities not using chlorophenolic biocides from pentachlorophenol and trichlorophenol monitoring requirements if the facilities certify that they do not use chlorophenolic biocides.

Standards for zinc have been issued for Subcategories M, N, and O, and apply to all new or existing sources within these subcategories that use zinc hydrosulfite as a bleaching agent. Control authorities may exempt groundwood facilities from zinc monitoring requirements if the facilities certify that they do not use zinc hydrosulfite.

Concentration-based limits are expressed in milligrams per liter and must be kilogallon of wastewater discharged per ton of product. Alternative mass-based limits are expressed in kilograms discharged per kiloton of product.

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Subpart	Subcategory	Maximum for Any One Day (concentration in mg/l)		
		Pentachlorophenol[1]	Trichlorophenol[1]	Zinc
Part 430				
A	Unbleached Kraft	(.011)(12.6)/y	(.010)(12.6)/y	NA[2]
B	Semi-Chemical	(.032)(10.3)/y	(.010)(10.3)/y	NA
C	Reserved			
D	Unbleached Kraft - Neutral Sulfite Semi-Chemical (Cross-Recovery)	See Standard for Subpart V	See Standard for Subpart V	NA
E	Paperboard from Wastepaper	(.032)(7.2)/y	(.010)(7.2)/y	NA
F	Dissolving Kraft	(.011)(55.1)/y	(.082)(55.1)/y	NA
G	Market Bleached Kraft	(.011)(41.6)/y	(.082)(41.6)/y	NA
H	BCT Bleached Kraft	(.011)(35.4)/y	(.082)(35.4)/y	NA
I	Fine Bleached Kraft	(.011)(30.9)/y	(.082)(30.9)/y	NA
J	Papergrade Sulfite (Blow Pit Wash)[3]	((.011)(12.67)exp(.017x))/y	((.082)(12.67)exp(.017x))/y	NA
K	Dissolving Sulfite Pulp			
	- Nitration, Viscose, Cellophane	(.011)(66.0)/y	(.082)(66.0)/y	NA
	- Acetate	(.011)(72.7)/y	(.082)(72.7)/y	NA
L	Groundwood-Chemical Mechanical	Reserved	Reserved	Reserved
M	Groundwood-Thermo-Mechanical	(.011)(21.1)/y	(.010)(21.1)/y	(3.0)(21.1)/y
N	Groundwood-CMN Papers	(.011)(23.8)/y	(.010)(23.8)/y	(3.0)(23.8)/y
O	Groundwood-Fine Papers	(.011)(21.9)/y	(.010)(21.9)/y	(3.0)(21.9)/y
P	Soda	(.011)(30.9)/y	(.082)(30.9)/y	NA
Q	Deink			
	- Fine or Tissue Paper	(.032)(24.4)/y	(.082)(24.4)/y	NA
	- Newsprint	(.032)(24.4)/y	(.010)(24.4)/y	NA
R	Nonintegrated Fine Papers			
	- Wood-Fiber Furnish	(.032)(15.2)/y	(.010)(15.2)/y	NA
	- Cotton-Fiber Furnish	(.032)(42.3)/y	(.010)(42.3)/y	NA
S	Nonintegrated Tissue Papers	(.032)(22.9)/y	(.010)(22.9)/y	NA

[1] Y = Wastewater discharged in kgal per ton of product.

[2] NA = Not applicable.

[3] X = Percent sulfite pulp in final product.

PULP AND PAPER (cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

Subpart	Subcategory	Maximum for Any One Day (concentration in mg/l)		
		Pentachlorophenol[1]	Trichlorophenol[1]	Zinc
T	Tissue from Wastepaper	(.032)(25.2)/y	(.010)(25.2)/y	NA
U	Papergrade Sulfite (Drum Wash)	((.011)(12.67)exp(.017x))/y	((.082)(12.67)exp(.017x))/y	NA
V	Unbleached Kraft and Semi-Chemical	(.011)(14.0)/y	(.010)(14.0)/y	NA
W	Wastepaper-Molded Products	(.032)(21.1)/y	(.010)(21.1)/y	NA
X	Nonintegrated Light Weight Papers	(.032)(48.7)/y	(.010)(48.7)/y	NA
	- Electrical Grade	(.032)(76.9)/y	(.010)(76.9)/y	NA
Y	Nonintegrated Filter and Non-Woven Papers	(.032)(59.9)/y	(.010)(59.9)/y	NA
Z	Nonintegrated Paperboard	(.032)(12.9)/y	(.010)(12.9)/y	NA
Part 431				
A	Builders' Paper and Roofing Felt	(.032)(14.4)/y	(.010)(14.4)/y	NA

PULP AND PAPER (cont.)

PSES OPTIONAL MASS LIMITS

Subpart	Subcategory	Maximum for Any One Day (kg/kkg or lbs/1000 lbs)		
		Pentachlorophenol	Trichlorophenol	Zinc
Part 430				
A	Unbleached Kraft	.00058	.00053	NA[1]
B	Semi-Chemical	.0014	.00043	NA
C	Reserved			
D	Unbleached Kraft - Neutral Sulfite Semi-Chemical (Cross-Recovery)	See Standard for Subpart V	See Standard for Subpart V	NA
E	Paperboard from Wastepaper	.00096	.00030	NA
F	Dissolving Kraft	.0025	.019	NA
G	Market Bleached Kraft	.0019	.014	NA
H	BCT Bleached Kraft	.0016	.012	NA
I	Fine Bleached Kraft	.0014	.011	NA
J	PAPERGRADE SULFITE (Blow Pit Wash)	.00058exp(.017x)[2]	.0043exp(.017x)	NA
K	Dissolving Sulfite Pulp			
	- Nitration, Viscose, Cellophane	.0030	.023	NA
	- Acetate	.0033	.025	NA
L	Groundwood-Chemical Mechanical	Reserved	Reserved	Reserved
M	Groundwood-Thermo-Mechanical	.00097	.00088	.26
N	Groundwood-CMN Papers	.0011	.00099	.30
O	Groundwood-Fine Papers	.0010	.00092	.27
P	Soda	.0014	.011	NA
Q	Deink			
	- Fine or Tissue Paper	.0033	.0084	NA
	- Newsprint	.0033	.0010	NA
R	Nonintegrated Fine Papers			
	- Wood-Fiber Furnish	.0020	.00064	NA
	- Cotton-Fiber Furnish	.0056	.0018	NA
S	Nonintegrated Tissue Papers	.0031	.00096	NA
T	Tissue from Wastepaper	.0034	.0011	NA
U	Papergrade Sulfite (Drum Wash)	.00058exp(.017x)	.0043exp(.017x)	NA

[1] NA = Not applicable.

[2] X = Percent sulfite pulp in final product.

PSES OPTIONAL MASS LIMITS (Continued)

Subpart	Subcategory	Maximum for Any One Day (kg/kkg or lbs/1000 lbs)		
		Pentachlorophenol	Trichlorophenol	Zinc
V	Unbleached Kraft and Semi-Chemical	.00064	.00059	NA
W	Wastepaper-Molded Products	.0028	.00088	NA
X	Nonintegrated Light Weight Papers	.0065	.0020	NA
	- Electrical Grade	.010	.0032	NA
Y	Nonintegrated Filter and Non-Woven Papers	.0080	.0025	NA
Z	Nonintegrated Paperboard	.0017	.00054	NA
Part 431				
A	Builders' Paper and Roofing Felt	.0019	.00060	NA

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Subpart	Subcategory	Maximum for Any One Day (concentration in mg/l)		
		Pentachlorophenol[1]	Trichlorophenol[1]	Zinc
Part 430				
A	Unbleached Kraft			
	- Linerboard Facilities	(.015)(9.4)/y	(.013)(9.4)/y	NA[2]
	- Bag Paper and other Mixed Products Fac.	(.012)(11.4)/y	(.011)(11.4)/y	NA
B	Semi-Chemical	(.045)(7.3)/y	(.014)(7.3)/y	NA
C	Reserved			
D	Unbleached Kraft - Neutral Sulfite Semi-Chemical (Cross-Recovery)	See Standard for Subpart V	See Standard for Subpart V	NA
E	Paperboard from Wastepaper	(.072)(3.2)/y	(.023)(3.2)/y	NA
F	Dissolving Kraft	(.012)(50.7)/y	(.089)(50.7)/y	NA
G	Market Bleached Kraft	(.013)(36.6)/y	(.093)(36.6)/y	NA
H	BCT Bleached Kraft	(.012)(31.7)/y	(.092)(31.7)/y	NA
I	Fine Bleached Kraft	(.014)(25.1)/y	(.101)(25.1)/y	NA
J	Papergrade Sulfite (Blow Pit Wash)[3]	((.015)(9.12)exp(.017x))/y	((.114)(9.12)exp(.017x))/y	NA
K	Dissolving Sulfite Pulp			
	- Nitration, Viscose, Cellophane	(.012)(59.0)/y	(.092)(59.0)/y	NA
	- Acetate	(.012)(65.7)/y	(.091)(65.7)/y	NA
L	Groundwood-Chemical Mechanical	Reserved	Reserved	Reserved
M	Groundwood-Thermo-Mechanical	(.017)(13.8)/y	(.015)(13.8)/y	(3.0)(13.8)/y
N	Groundwood-CMN Papers	(.016)(16.8)/y	(.014)(16.8)/y	(3.0)(16.8)/y
O	Groundwood-Fine Papers	(.016)(15.4)/y	(.014)(15.4)/y	(3.0)(15.4)/y
P	Soda	(.014)(25.1)/y	(.101)(25.1)/y	NA
Q	Deink			
	- Fine Paper	(.049)(15.9)/y	(.126)(15.9)/y	NA
	- Tissue Paper	(.040)(19.5)/y	(.103)(19.5)/y	NA
	- Newsprint	(.048)(16.2)/y	(.015)(16.2)/y	NA
R	Nonintegrated Fine Papers			
	- Wood-Fiber Furnish	(.052)(9.4)/y	(.016)(9.4)/y	NA
	- Cotton-Fiber Furnish	(.044)(31.1)/y	(.014)(31.1)/y	NA

[1] Y = Wastewater discharged in kgal per ton of product.

[2] NA = Not applicable.

[3] X = Percent sulfite pulp in final product.

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

Subpart	Subcategory	Maximum for Any One Day (concentration in mg/l)		
		Pentachlorophenol[1]	Trichlorophenol[1]	Zinc
S	Nonintegrated Tissue Papers	(.038)(19.1)/y	(.012)(19.1)/y	NA
T	Tissue from Wastepaper	(.049)(16.3)/y	(.015)(16.3)/y	NA
U	Papergrade Sulfite (Drum Wash)	((.015)(9.12)exp(.017x))/y	((.114)(9.12)exp(.017x))/y	NA
V	Unbleached Kraft and Semi-Chemical	(.013)(11.5)/y	(.012)(11.5)/y	NA
W	Wastepaper-Molded Products	(.118)(5.7)/y	(.037)(5.7)/y	NA
X	Nonintegrated Light Weight Papers	(.041)(38.2)/y	(.013)(38.2)/y	NA
	- Electrical Grade	(.037)(66.8)/y	(.012)(66.8)/y	NA
Y	Nonintegrated Filter and Non-Woven Papers	(.040)(47.5)/y	(.013)(47.5)/y	NA
Z	Nonintegrated Paperboard	(.037)(11.2)/y	(.012)(11.2)/y	NA
Part 431				
A	Builders' Paper and Roofing Felt	(.171)(2.7)/y	(.053)(2.7)/y	NA

PULP AND PAPER (cont.)

PSNS OPTIONAL MASS LIMITS

Subpart	Subcategory	Maximum for Any One Day (kg/kkg or lbs/1000 lbs)		
		Pentachlorophenol	Trichlorophenol	Zinc
Part 430				
A	Unbleached Kraft			
	- Linerboard Facilities	.00058	.00053	NA[1]
	- Bag Paper and other Mixed Products Fac.	.00058	.00053	NA
B	Semi-Chemical	.0014	.00043	NA
C	Reserved			
D	Unbleached Kraft - Neutral Sulfite Semi-Chemical (Cross-Recovery)	See Standard for Subpart V	See Standard for Subpart V	NA NA
E	Paperboard from Wastepaper	.00096	.00030	NA
F	Dissolving Kraft	.0025	.019	NA
G	Market Bleached Kraft	.0019	.014	NA
H	BCT Bleached Kraft	.0016	.012	NA
I	Fine Bleached Kraft	.0014	.011	NA
J	Papergrade Sulfite (Blow Pit Wash)[2]	.00058exp(.017x)	.0043exp(.017x)	NA
K	Dissolving Sulfite Pulp			
	- Nitration, Viscose, Cellophane	.0030	.023	NA
	- Acetate	.0033	.025	NA
L	Groundwood-Chemical Mechanical	Reserved	Reserved	Reserved
M	Groundwood-Thermo-Mechanical	.00097	.00088	.17
N	Groundwood-CMN Papers	.0011	.00099	.21
O	Groundwood-Fine Papers	.0010	.00092	.19
P	Soda	.0014	.011	NA
Q	Deink			
	- Fine or Tissue Paper	.0033	.0084	NA
	- Newsprint	.0033	.0010	NA
R	Nonintegrated Fine Paper			
	- Wood-Fiber Furnish	.0020	.00064	NA
	- Cotton-Fiber Furnish	.0056	.0018	NA
S	Nonintegrated Tissue Papers	.0031	.00096	NA

[1] NA = Not applicable.

[2] Y = Percent sulfite pulp in final product.

PSNS OPTIONAL MASS LIMITS (Continued)

Subpart	Subcategory	Maximum for Any One Day (kg/kkg or lbs/1000 lbs)		
		Pentachlorophenol	Trichlorophenol	Zinc
T	Tissue from Wastepaper	.0034	.0011	NA
U	Papergrade Sulfite (Drum Wash)[2]	.00058exp(.017x)	.0043exp(.017x)	NA
V	Unbleached Kraft and Semi-Chemical	.00064	.00059	NA
W	Wastepaper-Molded Products	.0028	.00088	NA
X	Nonintegrated Light Weight Papers	.0065	.0020	NA
	- Electrical Grade	.010	.0032	NA
Y	Nonintegrated Filter and Non-Woven Papers	.0080	.0025	NA
Z	Nonintegrated Paperboard	.0017	.00054	NA
Part 431				
A	Builders' Paper and Roofing Felt	.0019	.00060	NA

40 CFR PART 423

STEAM ELECTRIC POWER GENERATION

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Steam Electric category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this industrial category. The Steam Electric standards were established by the Environmental Protection Agency in Part 423 of Title 40 of the Code of Federal Regulations (40 CFR 423). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	October 14, 1980	Vol. 45, p. 68328
Final Rule	November 19, 1982	Vol. 47, p. 52290
Amendment	July 8, 1983	Vol. 48, p. 31403

APPLICABLE DATES

Effective Date: January 2, 1983
Baseline Monitoring Report (BMR) Due Date: July 1, 1983
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): July 1, 1984
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Steam Electric category [Standard Industrial Classification (SIC) Major Group 4900] is regulated as a single subcategory. The preamble to the Final Rule refers specifically to SIC codes 4911, Electric Services, and 4931, Electric and Other Services Combined.

Seven types of wastestreams are regulated: (1) once-through cooling water; (2) cooling tower blowdown; (3) fly ash transport water; (4) bottom ash transport water; (5) chemical metal cleaning waste; (6) low volume waste; and (7) coal pile runoff. EPA has reserved four types of wastestreams for future rulemaking: (1) non-chemical metal cleaning waste; (2) flue gas desulfurization waste; (3) runoff from materials storage and construction areas, other than coal storage; and (4) thermal discharges.

PRETREATMENT STANDARDS FOR EXISTING AND NEW SOURCES

The following standards apply to both existing and new sources unless otherwise indicated.

ALL WASTESTREAMS

The discharge of polychlorinated biphenyl (PCB) compounds is prohibited.

CHEMICAL METAL CLEANING WASTESTREAM

Pollutant	Maximum for Any One Day (mg/l)
Copper, total	1.0

COOLING TOWER BLOWDOWN

Pollutant	Maximum for Any Time (mg/l)
Chromium, total	0.2
Zinc, total	1.0
All other priority pollutants except chromium and zinc (see attached list)*	No detectable amount

NONCHEMICAL METAL CLEANING WASTES

Reserved

FLY ASH TRANSPORT WATER

New Sources are prohibited from discharging wastewater pollutants from fly ash transport water.

*At the discretion of the Control Authority, compliance with the limits on the other priority pollutants may be determined by engineering calculations rather than monitoring. The calculations must demonstrate that the regulated pollutants cannot be detected in the final discharge by the analytical methods set forth by EPA in 40 CFR 136.

LIST OF 126 TOXIC POLLUTANTS

001 Acenaphthene
002 Acrolein
003 Acrylonitrile
004 Benzene
005 Benzidine
006 Carbon tetrachloride
007 Chlorobenzene
008 1,2,4-trichlorobenzene
009 Hexachlorobenzene
010 1,2-dichloroethane
011 1,1,1-trichloroethane
012 Hexachloroethane
013 1,1-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
016 Chloroethane
~~017--Bis(chloromethyl)ether~~ *
018 Bis (2-chloroethyl) ether
019 2-chloroethyl vinyl ether (mixed)
020 2-chloronaphthalene
021 2,4,6-trichlorophenol
022 Parachlorometa cresol
023 Chloroform (trichloromethane)
024 2-chlorophenol
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3-dichlorobenzidine
029 1,1-dichloroethylene
030 1,2-trans-dichloroethylene
031 2,4-dichlorophenol
032 1,2-dichloropropane
033 1,2-dichloropropylene (1,3-dichloropropene)
034 2,4-dimethylphenol
035 2,4-dinitrotoluene
036 2,6-dinitrotoluene
037 1,2-diphenylhydrazine
038 Ethylbenzene
039 Fluoranthene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 Bis (2-chloroisopropyl) ethers
043 Bis (2-chloroethoxy) methane
044 Methylene chloride (dichloromethane)
045 Methyl chloride (chloromethane)
046 Methyl bromide (bromomethane)
047 Bromoform (tribromomethane)
048 Dichlorobromomethane
~~049--Trichlorofluoromethane~~ **
~~050--Dichlorodifluoromethane~~ **
051 Chlorodibromomethane
052 Hexachlorobutadiene
053 Hexachlorocyclopentadiene
054 Isophorone
055 Naphthalene
056 Nitrobenzene
057 2-nitrophenol
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
061 N-nitrosodimethylamine
062 N-nitrosodiphenylamine
063 N-nitrosodi-n-propylamine
064 Pentachlorophenol
065 Phenol
066 Bis (2-ethylhexyl) phthalate
067 Butyl benzyl phthalate
068 Di-n-butyl phthalate
069 Di-n-octyl phthalate
070 Diethyl phthalate
071 Dimethyl phthalate
072 1,2-benzanthracene (benzo(a) anthracene)
073 Benzo(a)pyrene (3,4-benzo-pyrene)
074 3,4-benzofluoranthene (benzo(b) fluoranthene)
075 11,12-benzofluoranthene (benzo(b) fluoranthene)
076 Chrysene
077 Acenaphthylene
078 Anthracene
079 1,12-benzoperylene (benzo(ghi) perylene)
080 Fluorene
081 Phenanthrene
082 1,2,5,6-dibenzanthracene (dibenzo(ah) anthracene)
083 Indeno (1,2,3-cd) pyrene (2,3-o-phenylene pyrene)
084 Pyrene

*Delisted 46 FR 10723
**Delisted 46 FR 2266

085 Tetrachloroethylene
086 Toluene
087 Trichloroethylene
088 Vinyl chloride (chloroethylene)
089 Aldrin
090 Dieldrin
091 Chlordane (technical mixture and metabolites)
092 4,4'-DDT
093 4,4'-DDE (p,p'-DDX)
094 4,4'-DDD (p,p'-TDE)
095 Alpha-endosulfan
096 Beta-endosulfan
097 Endosulfan sulfate
098 Endrin
099 Endrin aldehyde
100 Heptachlor
101 Heptachlor epoxide (BHC-hexachlorocyclohexane)
102 Alpha-BHC
103 Beta-BHC
104 Gamma-BHC (lindane)
105 Delta-BHC (PCB-polychlorinated biphenyl)
106 PCB-1242 (Arochlor 1242)
107 PCB-1254 (Arochlor 1254)
108 PCB-1221 (Arochlor 1221)
109 PCB-1232 (Arochlor 1232)
110 PCB-1248 (Arochlor 1248)
111 PCB-1260 (Arochlor 1260)
112 PCB-1016 (Arochlor 1016)
113 Toxaphene
114 Antimony
115 Arsenic
116 Asbestos
117 Beryllium
118 Cadmium
119 Chromium
120 Copper
121 Cyanide, Total
122 Lead
123 Mercury
124 Nickel
125 Selenium
126 Silver
127 Thallium
128 Zinc
129 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

Source: NRDC v. Train, 8 ERC 2120 (D.D.C. 1976), modified, 12 ERC 1833 (D.D.C. 1979)

40 CFR PART 410

TEXTILE MILLS

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms in the Textile Mills industrial category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards. The Textile Mills category was established by the Environmental Protection Agency under Part 410 of Title 40 of the Code of Federal Regulations (40 CFR 410). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	October 29, 1979	Vol. 44, p. 62207
Final Rule	September 2, 1982	Vol. 47, p. 38810
Notice of Availability	January 14, 1983	Vol. 48, p. 1722
Correction	September 1, 1983	Vol. 48, p. 39624

APPLICABLE DATES

Effective Date:	October 18, 1982
Compliance Dates:	--

PRETREATMENT STANDARDS FOR EXISTING AND NEW SOURCES

No numerical pretreatment standards for existing or new sources were established for this industrial category. However, indirect dischargers in the Textile Mills industry are required to comply with the General Pretreatment Regulations in 40 CFR Part 403.

40 CFR PART 429

TIMBER PRODUCTS PROCESSING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Timber Products Processing category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this industrial category. The Timber Products Processing categorical standards were established by the Environmental Protection Agency in Part 429 of Title 40 of the Code of Federal Regulations (40 CFR 429). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

SUMMARY OF FEDERAL REGISTER CITATIONS

Type of Rule	Date	Federal Register Citation
Proposed Rule	October 31, 1979	Vol. 44, p. 62810
Final Rule	January 26, 1981	Vol. 46, p. 8260
Amendment	February 12, 1981	Vol. 46, p. 11972
Amendment	November 23, 1981	Vol. 46, p. 57286

APPLICABLE DATES

Effective Date: March 30, 1981
Baseline Monitoring Report (BMR) Due Date: September 26, 1981
Compliance Dates:

- Pretreatment Standards for Existing Sources (PSES): January 26, 1984
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Timber Products Processing category is divided into 16 subcategories corresponding to the different processes within the industry. The subcategories and their SIC codes are as follows.

Subcategory	SIC Codes
A. Barking	2421, 2426, 2432, 2491, 2499
B. Veneer	2432
C. Plywood	2432
D. Hardboard - Dry Process	2499

Subcategory	SIC Codes
E. Hardboard - Wet Process	2499
F. Wood Preserving - Water Borne or Nonpressure	2491
G. Wood Preserving - Steam	2491
H. Wood Preserving - Boultonizing	2491
I. Wet Storage	2491, 2421, 2426, 2429, 2431, 2499
J. Log Washing	2491, 2421, 2426, 2429, 2431, 2432, 2499
K. Sawmills and Planing Mills	2421, 2426, 2429, 2431
L. Finishing	2421, 2426, 2429, 2431, 2432, 2499
M. Particleboard Manufacturing	2492
N. Insulation Board	2661
O. Wood Furniture and Fixture Production without Water Wash Spray Booths or Laundry Facilities	2511, 2512, 2519, 2521, 2531, 2541, 2591, 2599
P. Wood Furniture and Fixture Production with Water Wash Spray Booths or Laundry Facilities	2511, 2512, 2519, 2521, 2531, 2541, 2591, 2599

With the exceptions of Subcategories F, G, and H, the subcategories have no numerical pretreatment standards. Subcategories A through E and I through P must comply with the prohibited discharge standards in 40 CFR 403.5 and locally developed numerical limits.

Both new and existing firms in Subcategory F (Wood Preserving - Water Borne or Nonpressure) are prohibited from discharging process wastewater pollutants to publicly owned treatment works. Subcategories G and H (Wood Preserving - Steam, and Wood Preserving - Boultonizing) have numerical limits for existing sources (PSES), but prohibit new firms from discharging process wastewater pollutants to publicly owned treatment works.

REGULATED POLLUTANTS

The pollutants regulated under Subcategories G and H of the Timber Products Processing category are copper, chromium, arsenic, and oil and grease. Both concentration-based and mass-based pretreatment standards have been set.

TIMBER PRODUCTS (cont.)

SUBCATEGORY G - WOOD PRESERVING - STEAM

SUBCATEGORY H - WOOD PRESERVING - BOULTONIZING

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Maximum for Any One Day (grams/ cubic meter of production)
Oil and Grease	100	20.5
Copper	5	.62
Chromium	4	.41
Arsenic	4	.41