(e) For wastewater sources regulated under paragraph (c) of this section, the following optional control program may be elected by the source introducing treated process wastewater into a publicly owned treatment works with the concurrence of the control authority. These optional pollutant parameters are not eligible for allowance for removal achieved by the publicly owned treatment works under 40 CFR 403.7. In the absence of strong chelating agents, after reduction of hexavalent chromium wastes, and after neutralization using calcium oxide (or hydroxide) the following limitations shall apply:

SUBPART H—PRINTED CIRCUIT BOARD FACILITIES DISCHARGING 38,000 LITERS OR MORE PER DAY PSES LIMITATIONS (MG/L)

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	1.9	1.0
Pb	0.6	0.4
Cd	1.2	0.7
TSS	20.0	13.4
pH	([1])	([1])

[1] Within the range 7.5 to 10.0

(f) In addition to paragraphs (a) and (b) the following limitation shall apply for plants discharging less than 38,000 l (10,000 gal) per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
	Milligrams per liter (mg/l)
TTO	4.57

(g) In addition to paragraphs (a), (c), (d), and (e) the following limitation shall apply for plants discharging 38,000 l (10,000 gal) or more per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
	Milligrams per liter (mg/l)
TTO	2.13

(h) In addition to paragraphs (a), (b), (c), (d), (e), (f), and (g) of this section, the following shall apply: An existing source submitting a certification in lieu of monitoring pursuant to § 413.03 of this regulation must implement the toxic organic management plan approved by the control authority.

(Secs. 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 *et. seq.*, as amended by the Clean Water Act of 1977, Pub. L. 95–217))

[46 FR 9467, Jan. 28, 1981, as amended at 48 FR 32485, July 15, 1983; 48 FR 43681, Sept. 26, 1983]

PART 414—ORGANIC CHEMICALS, PLASTICS, AND SYNTHETIC FIBERS

Subpart A—General

Subpart B—Rayon Fibers

Subpart C—Other Fibers

Subpart D—Thermoplastic Resins

Subpart E—Thermosetting Resins

Subpart F—Commodity Organic Chemicals

Subpart G—Bulk Organic Chemicals

Subpart H—Specialty Organic Chemicals

Subpart I—Direct Discharge Point Sources That Use End-of-Pipe Biological Treatment

Subpart J—Direct Discharge Point Sources That Do Not Use End-of-Pipe Biological Treatment

Subpart K—Indirect Discharge Point Sources

AUTHORITY: Secs. 301, 304, 306, 307, and 501, Pub. L. 92-500, 86 Stat. 816, Pub. L. 95–217, 91 Stat. 156, Pub. L. 100–4, 101 Stat. 7 (33 U.S.C. 1311, 1314, 1316, 1317, and 1361).

SOURCE: 52 FR 42568, Nov. 5, 1987, unless otherwise noted.

Subpart A—General

§414.10 General definitions.

As used in this part:

(a) Except as provided in this regulation, the general definitions, abbreviations and methods of analysis set forth in part 401 of this chapter shall apply to this part.

(b) *Pretreatment control authority* means:

(1) The POTW if the POTW's submission for its pretreatment program has been approved in accordance with the requirements of 40 CFR 403.11, or

(2) The Approval Authority if the submission has not been approved.

(c) *Priority pollutants* means the toxic pollutants listed in 40 CFR 401.15.

§414.11 Applicability.

(a) The provisions of this part are applicable to process wastewater discharges from all establishments or portions of establishments that manufacture the organic chemicals, plastics, and synthetic fibers (OCPSF) products or product groups covered by subparts B through H of this regulation and are included within the following U.S. Department of Commerce Bureau of the Census 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.

(b) The provisions of this part are applicable to wastewater discharges from OCPSF research and development, pilot plant, technical service and laboratory bench scale operations if such operations are conducted in conjunction with and related to existing OCPSF manufacturing activities at the plant site.

(c) Notwithstanding paragraph (a) of this section, the provisions of this part are not applicable to discharges resulting from the manufacture of OCPSF products if the products are included in the following SIC subgroups and have in the past been reported by the establishment under these subgroups and not under the SIC groups listed in paragraph (a) of this section:

(1) SIC 2843085—bulk surface active agents;

(2) SIC 28914—synthetic resin and rubber adhesives;

(3) Chemicals and Chemical Preparations, not Elsewhere Classified:

(i) SIC 2899568—sizes, all types

(ii) SIC 2899597—other industrial chemical specialties, including fluxes,

plastic wood preparations, and embalming fluids;

(4) SIC 2911058—aromatic hydrocarbons manufactured from purchased refinery products; and

(5) SIC 2911632—aliphatic hydrocarbons manufactured from purchased refinery products.

(d) Notwithstanding paragraph (a) of this section, the provisions of this part are not applicable to any discharges for which a different set of previously promulgated effluent limitations guidelines and standards in this subchapter apply, unless the facility reports OCPSF products under SIC codes 2865, 2869, or 2821, and the facility's OCPSF wastewaters are treated in a separate treatment system or discharged separately to a publicly owned treatment works.

(e) The provisions of this part do not apply to any process wastewater discharges from the manufacture of organic chemical compounds solely by extraction from plant and animal raw materials or by fermentation processes.

(f) Discharges of chromium, copper, lead, nickel, and zinc in ''complexed metal-bearing waste streams,'' listed in appendix B of this part, are not subject to the requirements of this part.

(g) *Non-amenable cyanide.* Discharges of cyanide in ''cyanide-bearing waste streams'' (listed in Appendix A to this part) are not subject to the cyanide limitations and standards of this part if the permit writer or control authority determines that the cyanide limitations and standards are not achievable due to elevated levels of non-amenable cyanide (*i.e.*, cyanide that is not oxidized by chlorine treatment) that result from the unavoidable complexing of cyanide at the process source of the cyanide-bearing waste stream and establishes an alternative total cyanide or amenable cyanide limitation that reflects the best available technology economically achievable. The determination must be based upon a review of relevant engineering, production, and sampling and analysis information, including measurements of both total and amenable cyanide in the waste stream. An analysis of the extent of complexing in the waste stream, based on the foregoing information, and its impact on cyanide treatability shall be set forth in writing and, for direct dischargers, be contained in the fact sheet required by 40 CFR 124.8.

(h) *Allowances for non-metal-bearing waste streams.* Discharge limitations for chromium, copper, lead, nickel, and zinc or discharge standards for lead and zinc may be established for waste streams not listed in Appendix A of this part and not otherwise determined to be ''metal-bearing waste streams'' if the permit writer or control authority determines that the wastewater metals contamination is due to background levels that are not reasonably avoidable from sources such as intake water, corrosion of construction materials or contamination of raw materials. The determination must be based upon a review of relevant plant operating conditions, process chemistry, engineering, and sampling and analysis information. An analysis of the sources and levels of the metals, based on the foregoing information, shall be set forth in writing; for direct dischargers, the analysis shall be contained in the fact sheet required by 40 CFR 124.8. For direct dischargers, the permit writer may establish limitations for chromium, copper, lead, nickel, and zinc for non-''metal-bearing waste streams'' between the lowest level which the permit writer determines based on best professional judgment can be reliably measured and the concentrations of such metals present in the wastestreams, but not to exceed the applicable limitations contained in §§ 414.91 and 414.101. (For zinc, the applicable limitations which may not be exceeded are those appearing in the tables in §§ 414.91 and 414.101, not the alternative limitations for rayon fiber manufacture by the viscose process and the acrylic fiber manufacture by the zinc chloride/solvent process set forth in footnote 2 to each of these tables.) For indirect dischargers, the control authority may establish standards for lead and zinc for non-''metal-bearing waste streams'' between the lowest level which the control authority determines based on best professional judgment can be reliably measured and the concentration of such metals present in the wastestreams, but not to

exceed the applicable standards contained in §§414.25, 414.35, 414.45, 414.55, 414.65, 414.75, and 414.85. (For zinc, the applicable standards which may not be exceeded are those appearing in the tables in the above referenced sections, not the alternative standards for rayon filber manufacture by the viscose process set forth in footnote 2 to the table in §414.25, or the alternative standards for acrylic fiber manufacture by the zinc chloride/solvent process set forth in footnote 2 to the table in §414.35.) The limitations and standards for individual dischargers shall be set on a mass basis by multiplying the concentration allowance established by the permit writer or control authority by the process wastewater flow from the individual wastestreams for which incidental metals have been found to be present.

(i) BOD_5 and TSS limitations for plants with production in two or more subcategories. Any existing or new source direct discharge point source subject to two or more of subparts B through H must achieve BOD_5 and TSS discharges not exceeding the quantity (mass) determined by multiplying the total OCPSF process wastewater flow subject to subparts B through H times the following ''OCPSF production-proportioned concentration'': For a specific plant, let w_j be the proportion of the plant's total OCPSF production in subcategory j. Then the plant-specific production-proportioned concentration limitations are given by:

$$\text{Plant BOD}_5\text{ Limit} = \sum_{j=B}^{H}\left(w_j\right)\left(\text{BOD}_5\text{ Limit}_j\right)$$

and

$$\text{Plant TSS Limit} = \sum_{j=B}^{H}\left(w_j\right)\left(\text{TSS Limit}_j\right).$$

The ''BOD_5 $Limit_j$'' and ''TSS $Limit_j$'' are the respective subcategorical BOD_5 and TSS Maximum for Any One Day or Maximum for Monthly Average limitations.

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41843, Sept. 11, 1992]

§414.12 Compliance date for pretreatment standards for existing sources (PSES).

All dischargers subject to PSES in this part must comply with the standards by no later than three years after date of promulgation in the FEDERAL REGISTER.

Subpart B—Rayon Fibers

§414.20 Applicability; description of the rayon fibers subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the manufacture of rayon fiber by the viscose process only.

§414.21 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, and in 40 CFR 414.11(i) for point sources with production in two or more subcategories, any existing point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentration listed in the following table.

Effluent characteristics	BPT effluent limitations [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	64	24
TSS	130	40
pH	(2)	(2)

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992]

§ 414.22 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

§ 414.23 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

(a) The Agency has determined that for existing point sources whose total OCPSF production defined by § 414.11 is less than or equal to five (5) million pounds of OCPSF products per year, the BPT level of treatment is the best available technology economically achievable. Accordingly, the Agency is not promulgating more stringent BAT limitations for these point sources.

(b) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part.

(c) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part.

§ 414.24 New source performance standards (NSPS).

(a) Any new source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

(b) Any new source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

Effluent characteristics	NSPS [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	64	24
TSS	130	40
pH	([2])	([2])

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

§ 414.25 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve discharges in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

§ 414.26 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 any 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 in accordance with § 411.111.

[58 FR 36892, July 9, 1993]

Subpart C—Other Fibers

§ 414.30 Applicability; description of the other fibers subcategory.

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of products classified under SIC 2823 cellulosic man-made fibers, except Rayon, and SIC 2824 synthetic organic fibers including those fibers and fiber groups listed below. 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)

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992]

§ 414.31 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, and in 40 CFR 414.11(i) for point sources with production in two or more subcategories, any existing point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentration listed in the following table.

Effluent characteristics	BPT effluent limitations [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	48	18
TSS	115	36
pH	(2)	(2)

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992]

§ 414.32 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

§ 414.33 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

(a) The Agency has determined that for existing point sources whose total OCPSF production defined by § 414.11 is less than or equal to five (5) million pounds of OCPSF products per year, the BPT level of treatment is the best available technology economically achievable. Accordingly, the Agency is not promulgating more stringent BAT limitations for these point sources.

(b) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part.

(c) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part.

§ 414.34 New source performance standards (NSPS).

(a) Any new source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

(b) Any new source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

Effluent characteristics	NSPS [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	48	18
TSS	115	36
pH	(2)	(2)

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

§ 414.35 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve discharges in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

§ 414.36 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 any 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 in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

Subpart D—Thermoplastic Resins

§ 414.40 Applicability; description of the thermoplastic resins subcategory.

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of the products classified under SIC 28213 thermoplastic resins including those resins and resin groups listed below. 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
*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: Silicone 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 Terpolymer Resins
*Styrene-Methyl Methacrylate Copolymers
*Styrene, 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-Butylacrylate Copolymers

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992]

§ 414.41 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, and in 40 CFR 414.11(i) for point sources with production in two or more subcategories, any existing point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentration listed in the following table.

Effluent characteristics	BPT Effluent Limitations [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	64	24
TSS	130	40
pH	([2])	([2])

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992]

§ 414.42 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

§ 414.43 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

(a) The Agency has determined that for existing point sources whose total OCPSF production defined by § 414.11 is less than or equal to five (5) million pounds of OCPSF products per year, the BPT level of treatment is the best available technology economically achievable. Accordingly, the Agency is not promulgating more stringent BAT limitations for these point sources.

(b) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part.

(c) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part.

§ 414.44 New source performance standards (NSPS).

(a) Any new source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

(b) Any new source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

Effluent characteristics	NSPS [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	64	24
TSS	130	40
pH	([2])	([2])

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

§ 414.45 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve discharges in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

§ 414.46 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 any 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 in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

Subpart E—Thermosetting Resins

§ 414.50 Applicability; description of the thermosetting resins subcategory.

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of the products classified under SIC 28214 thermosetting resins including those resins and resin groups listed below. Product 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

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992]

§ 414.51 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, and in 40 CFR 414.11(i) for point sources with production in two or more subcategories, any existing point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentration listed in the following table.

Effluent characteristics	BPT effluent limitations [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	163	61
TSS	216	67
pH	([2])	([2])

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992]

§ 414.52 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

§ 414.53 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

(a) The Agency has determined that for existing point sources whose total OCPSF production defined by § 414.11 is less than or equal to five (5) million pounds of OCPSF products per year, the BPT level of treatment is the best available technology economically achievable. Accordingly, the Agency is not promulgating more stringent BAT limitations for these point sources.

(b) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part.

(c) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part.

§ 414.54 New source performance standards (NSPS).

(a) Any new source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of

this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

(b) Any new source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

Effluent characteristics	NSPS [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	163	61
TSS	216	67
pH	([2])	([2])

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

§ 414.55 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve discharges in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

§ 414.56 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 any 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 in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

Subpart F—Commodity Organic Chemicals

§ 414.60 Applicability; description of the commodity organic chemicals subcategory.

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of the following 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
m-Xylene (impure)
p-Xylene
Phenol
*Pitch Tar Residues
*Pyrolysis Gasolines
Styrene
Terephthalic Acid
Toluene
*Xylenes, Mixed
o-Xylene

(c) Halogenated Organic Chemicals

Vinyl Chloride

§ 414.61 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, and in 40 CFR 414.11(i) for point sources with production in two or more subcategories, any existing point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentration listed in the following table.

Effluent characteristics	BPT Effluent limitations [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	80	30
TSS	149	46
pH	(2)	(2)

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992]

§ 414.62 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

§ 414.63 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

(a) The Agency has determined that for existing point sources whose total OCPSF production defined by § 414.11 is less than or equal to five (5) million pounds of OCPSF products per year, the BPT level of treatment is the best available technology economically achievable. Accordingly, the Agency is not promulgating more stringent BAT limitations for these point sources.

(b) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part.

(c) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part.

§ 414.64 New source performance standards (NSPS).

(a) Any new source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

(b) Any new source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

Effluent characteristics	NSPS [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	80	30
TSS	149	46
pH	(2)	(2)

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

§ 414.65 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve discharges in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

§ 414.66 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 any 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 in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

Subpart G—Bulk Organic Chemicals

§ 414.70 Applicability; description of the bulk organic chemicals subcategory.

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of the following SIC 2865 and 2869

bulk organic chemicals and bulk organic chemical groups. Product groups are indicated with an 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
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
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-Butyraldehyde
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
*Pentenes
*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-Ethylbutyraldehyde
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-Dimethylformamide
*Nitroanilines
Polymeric Methylene Dianiline
Sec-Butylamine
Tert-Butylamine
Toluenediamine (Mixture)

*Toluidines
o-Phenylenediamine
2,6-Dimethylaniline
4-(N-Hydroxyethylethylamino)-2-Hydroxyethyl 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)
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
*Chloromethanes
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
Fatty Nitriles
*Organo-Tin Compounds
*Phosphate Esters
Tetraethyl Lead
Tetramethyl Lead
*Urethane Prepolymers

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992]

§ 414.71 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, and in 40 CFR 414.11(i) for point sources with production in two or more subcategories, any existing point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentration listed in the following table.

Effluent characteristics	BPT Effluent limitations [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	92	34
TSS	159	49
pH	([2])	([2])

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992]

§ 414.72 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

§ 414.73 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

(a) The Agency has determined that for existing point sources whose total OCPSF production defined by § 414.11 is less than or equal to five (5) million pounds of OCPSF products per year, the BPT level of treatment is the best available technology economically achievable. Accordingly, the Agency is not promulgating more stringent BAT limitations for these point sources.

(b) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part.

(c) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part.

§ 414.74 New source performance standards (NSPS).

(a) Any new source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

(b) Any new source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

Effluent characteristics	NSPS [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	92	34
TSS	159	49
pH	([2])	([2])

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

§ 414.75 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve discharges in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

§ 414.76 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 any 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 in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

Subpart H—Specialty Organic Chemicals

§ 414.80 Applicability; description of the specialty organic chemicals subcategory.

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 defined as commodity or bulk organic chemicals in §§ 414.60 and 414.70, respectively.

§ 414.81 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, and in 40 CFR 414.11(i) for point sources with production in

two or more subcategories, any existing point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentration listed in the following table.

Effluent characteristics	BPT effluent limitations [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	120	45
TSS	183	57
pH	(2)	(2)

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

[52 FR 42568, Nov. 5, 1987, as amended at 57 FR 41844, Sept. 11, 1992]

§ 414.82 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

§ 414.83 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

(a) The Agency has determined that for existing point sources whose total OCPSF production defined by § 414.11 is less than or equal to five (5) million pounds of OCPSF products per year, the BPT level of treatment is the best available technology economically achievable. Accordingly, the Agency is not promulgating more stringent BAT limitations for these point sources.

(b) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.91 of this part.

(c) Except as provided in paragraph (a) of this section and in 40 CFR 125.30 through 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part.

§ 414.84 New source performance standards (NSPS).

(a) Any new source that uses end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.9 of this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

(b) Any new source that does not use end-of-pipe biological treatment and is subject to this subpart must achieve discharges in accordance with § 414.101 of this part, and also must not exceed the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

Effluent characteristics	NSPS [1]	
	Maximum for any one day	Maximum for monthly average
BOD5	120	45
TSS	183	57
pH	(2)	(2)

[1] All units except pH are milligrams per liter.
[2] Within the range of 6.0 to 9.0 at all times.

§ 414.85 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve discharges in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

§ 414.86 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 any 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 in accordance with § 414.111.

[58 FR 36892, July 9, 1993]

Subpart I—Direct Discharge Point Sources That Use End-of-Pipe Biological Treatment

§ 414.90 Applicability; description of the subcategory of direct discharge point sources that use end-of-pipe biological treatment.

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of the OCPSF products and product groups defined by § 414.11 from any point source that uses end-of-pipe biological treatment or installs end-of-pipe biological treatment to comply with BPT effluent limitations.

§ 414.91 Toxic pollutant effluent limitations and standards for direct discharge point sources that use end-of-pipe biological treatment.

(a) Any point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentrations in the following table.

(b) In the case of chromium, copper, lead, nickel, zinc, and total cyanide, the discharge quantity (mass) shall be determined by multiplying the concentrations listed in the following table for these pollutants times the flow from metal-bearing waste streams for the metals and times the flow from cyanide bearing waste streams for total cyanide. The metal-bearing waste streams and cyanide-bearing waste streams are defined as those waste streams listed in Appendix A of this part, plus any additional OCPSF process wastewater streams identified by the permitting authority on a case-by-case basis as metal or cyanide bearing based upon a determination that such streams contain significant amounts of the pollutants identified above. Any such streams designated as metal or cyanide bearing must be treated independently of other metal or cyanide bearing waste streams unless the permitting authority determines 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.

Effluent characteristics	Effluent limitations BAT and NSPS [1]	
	Maximum for any one day	Maximum for any monthly average
Acenaphthene	59	22
Acenaphthylene	59	22
Acrylonitrile	242	96
Anthracene	59	22
Benzene	136	37
Benzo(a)anthracene	59	22
3,4-Benzofluoranthene	61	23
Benzo(k)fluoranthene	59	22
Benzo(a)pyrene	61	23
Bis(2-ethylhexyl) phthalate	279	103
Carbon Tetrachloride	38	18
Chlorobenzene	28	15
Chloroethane	268	104
Chloroform	46	21
2-Chlorophenol	98	31
Chrysene	59	22
Di-n-butyl phthalate	57	27
1,2-Dichlorobenzene	163	77
1,3-Dichlorobenzene	44	31
1,4-Dichlorobenzene	28	15
1,1-Dichloroethane	59	22
1,2-Dichloroethane	211	68
1,1-Dichloroethylene	25	16
1,2-trans-Dichloroethylene	54	21
2,4-Dichlorophenol	112	39
1,2-Dichloropropane	230	153
1,3-Dichloropropylene	44	29
Diethyl phthalate	203	81
2,4-Dimethylphenol	36	18
Dimethyl phthalate	47	19
4,6-Dinitro-o-cresol	277	78
2,4-Dinitrophenol	123	71
2,4-Dinitrotoluene	285	113
2,6-Dinitrotoluene	641	255
Ethylbenzene	108	32
Fluoranthene	68	25
Fluorene	59	22
Hexachlorobenzene	28	15
Hexachlorobutadiene	49	20
Hexachloroethane	54	21
Methyl Chloride	190	86
Methylene Chloride	89	40
Naphthalene	59	22
Nitrobenzene	68	27
2-Nitrophenol	69	41
4-Nitrophenol	124	72
Phenanthrene	59	22
Phenol	26	15
Pyrene	67	25
Tetrachloroethylene	56	22
Toluene	80	26
Total Chromium	2,770	1,110
Total Copper	3,380	1,450
Total Cyanide	1,200	420
Total Lead	690	320
Total Nickel	3,980	1,690
Total Zinc [2]	2,610	1,050
1,2,4-Trichlorobenzene	140	68
1,1,1-Trichloroethane	54	21
1,1,2-Trichloroethane	54	21
Trichloroethylene	54	21
Vinyl Chloride	268	104

[1] All units are micrograms per liter.

[2] Total Zinc for Rayon Fiber Manufacture that uses the viscose process and Acrylic Fiber Manufacture that uses the zinc chloride/solvent process is 6,796 μg/l and 3,325 μg/l for maximum for any one day and maximum for monthly average, respectively.

[52 FR 42568, Nov. 5, 1987, as amended at 58 FR 36892, July 9, 1993]

Subpart J—Direct Discharge Point Sources That Do Not Use End-of-Pipe Biological Treatment

§ 414.100 Applicability; description of the subcategory of direct discharge point sources that do not use end-of-pipe biological treatment.

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of the OCPSF products and product groups defined by § 414.11 from any point source that does not use end-of-pipe biological treatment and does not install end-of-pipe biological treatment to comply with BPT effluent limitations.

§ 414.101 Toxic pollutant effluent limitations and standards for direct discharge point sources that do not use end-of-pipe biological treatment.

(a)Any point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentartions in the following table.

(b) In the case of chromium, copper, lead, nickel, zinc, and total cyanide, the discharge quantity (mass) shall be determined by multiplying the concentrations listed in the following table for these pollutants times the flow from metal bearing waste streams for the metals and times the cyanide-bearing waste streams for total cyanide. The metal-bearing waste streams and cyanide-bearing waste streams are defined as those waste streams listed in Appendix A of this part, plus any additional OCPSF process wastewater streams identified by the permitting authority on a case-by-case basis as metal or cyanide bearing based upon a determination that such streams contain significant amounts of the pollutants identified above. Any such streams designated as metal or cyanide bearing must be treated independently of other metal or cyanide bearing waste streams unless the permitting authority determines 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.

Effluent characteristics	BAT effluent limitations and NSPS [1]	
	Maximum for any one day	Maximum for monthly average
Acenaphthene	47	19
Acenaphthylene	47	19
Acrylonitrile	232	94
Anthracene	47	19
Benzene	134	57
Benzo(a)anthracene	47	19
3,4-Benzofluoranthene	48	20
Benzo(k)fluoranthene	47	19
Benzo(a)pyrene	48	20
Bis(2-ethylhexyl) phthalate	258	95
Carbon Tetrachloride	380	142
Chlorobenzene	380	142
Chloroethane	295	110
Chloroform	325	111
Chrysene	47	19
Di-n-butyl phthalate	43	20
1,2-Dichlorobenzene	794	196
1,3-Dichlorobenzene	380	142
1,4-Dichlorobenzene	380	142
1,1-Dichloroethane	59	22
1,2-Dichloroethane	574	180
1,1-Dichloroethylene	60	22
1,2-trans-Dichloroethylene	66	25
1,2-Dichloropropane	794	196
1,3-Dichloropropylene	794	196
Diethyl phthalate	113	46
2,4-Dimethylphenol	47	19
Dimethyl phthalate	47	19
4,6-Dinitro-o-cresol	277	78
2,4-Dinitrophenol	4,291	1,207
Ethylbenzene	380	142
Fluoranthene	54	22
Fluorene	47	19
Hexachlorobenzene	794	196
Hexachlorobutadiene	380	142
Hexachloroethane	794	196
Methyl Chloride	295	110
Methylene Chloride	170	36
Naphthalene	47	19
Nitrobenzene	6,402	2,237
2-Nitrophenol	231	65
4-Nitrophenol	576	162
Phenanthrene	47	19
Phenol	47	19
Pyrene	48	20
Tetrachloroethylene	164	52
Toluene	74	28
Total Chromium	2,770	1,110
Total Copper	3,380	1,450
Total Cyanide	1,200	420
Total Lead	690	320
Total Nickel	3,980	1,690
Total Zinc [2]	2,610	1,050
1,2,4-Trichlorobenzene	794	196

Effluent characteristics	BAT effluent limitations and NSPS [1]	
	Maximum for any one day	Maximum for monthly average
1,1,1-Trichloroethane	59	22
1,1,2-Trichloroethane	127	32
Trichloroethylene	69	26
Vinyl Chloride	172	97

[1] All units are micrograms per liter.
[2] Total Zinc for Rayon Fiber Manufacture that uses the viscose process and Acrylic Fibers Manufacture that uses the zinc chloride/solvent process is 6,796 μg/l and 3,325 μg/l for maximum for any one day and maximum for monthly average, respectively.

[52 FR 42568, Nov. 5, 1987, as amended at 58 FR 36893, July 9, 1993]

Subpart K—Indirect Discharge Point Sources

SOURCE: 58 FR 36893, July 9, 1993, unless otherwise noted.

§414.110 Applicability; description of the subcategory of indirect discharge point sources.

The provisions of this subpart are applicable to the process wastewater discharges resulting from the manufacture of the OCPSF products and product groups defined by §414.11 from any indirect discharge point source.

§414.111 Toxic pollutant standards for indirect discharge point sources.

(a) Any point source subject to this subpart must achieve discharges not exceeding the quantity (mass) determined by multiplying the process wastewater flow subject to this subpart times the concentration listed in the following table.

(b) In the case of lead, zinc, and total cyanide the discharge quantity (mass) shall be determined by multiplying the concentrations listed in the following table for these pollutants times the flow from metal-bearing waste streams for metals and times the flow from the cyanide-bearing waste streams for total cyanide. The metal-bearing waste streams and cyanide-bearing waste streams are defined as those waste streams listed in Appendix A of this part, plus any additional OCPSF process wastewater streams identified by the control authority on a case-by-case basis as metal or cyanide bearing based upon a determination that such streams contain significant amounts of the pollutants identified above. Any such streams designated as metal or cyanide bearing must be treated independently of other metal or cyanide bearing waste streams unless the control authority determines 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.

Effluent characteristics	PSES and PSNS [1]	
	Maximum for any one day	Maximum for any monthly average
Acenaphthene	47	19
Anthracene	47	19
Benzene	134	57
Bis(2-ethylhexyl) phthalate	258	95
Carbon Tetrachloride	380	142
Chlorobenzene	380	142
Chloroethane	295	110
Chloroform	325	111
Di-n-butyl phthalate	43	20
1,2-Dichlorobenzene	794	196
1,3-Dichlorobenzene	380	142
1,4-Dichlorobenzene	380	142
1,1-Dichloroethane	59	22
1,2-Dichloroethane	574	180
1,1-Dichloroethylene	60	22
1,2-trans-Dichloroethylene	66	25
1,2-Dichloropropane	794	196
1,3-Dichloropropylene	794	196
Diethyl phthalate	113	46
Dimethyl phthalate	47	19
4,6-Dinitro-o-cresol	277	78
Ethylbenzene	380	142
Fluoranthene	54	22
Fluorene	47	19
Hexachlorobenzene	794	196
Hexachlorobutadiene	380	142
Hexachloroethane	794	196
Methyl Chloride	295	110
Methylene Chloride	170	36
Naphthalene	47	19
Nitrobenzene	6,402	2,237
2-Nitrophenol	231	65
4-Nitrophenol	576	162
Phenanthrene	47	19
Pyrene	48	20
Tetrachloroethylene	164	52
Toluene	74	28
Total Cyanide	1,200	420
Total Lead	690	320
Total Zinc [2]	2,610	1,050
1,2,4-Trichlorobenzene	794	196
1,1,1-Trichloroethane	59	22
1,1,2-Trichloroethane	127	32
Trichloroethylene	69	26
Vinyl Chloride	172	97

[1] All units are micrograms per liter.
[2] Total Zinc for Rayon Fiber Manufacture that uses the viscose process and Acrylic Fiber Manufacture that uses the zinc chloride/solvent process is 6,796 μg/l and 3,325 μg/l for maximum for any one day and maximum for monthly average, respectively.

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 fluids/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
Styrene/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 polyester with styrene or methyl methacrylate

Lead

Alkyd resin/Condensation polymerization
Alkyd resins/Condensation polymerization of phthalic anhydride + glycerin + vegetable oil esters
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

Nickel

Acetates, 7,11-Hexadecadien-1-ol (gossyplure)/Coupling reactions, low pressure hydrogenation, esterification
Acetates, 9-dodecen-1-ol (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-Nitroacetanilide
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 pyrolyzates
n-Butanol/Hydrogenation of n-Butyraldehyde, Oxo process
1,3-Butylene glycol/Hydrogenation of acetaldol
1,4-Butanediol/Hydrogenation of 1,4-butynediol
Butylenes (mixed)/Distillation pf C4 pyrolyzates
4-Chloro-2-aminophenol/Hydrogenation of 4-Chloro-2-nitrophenol
Lilial (hydroxydihydrocitronellal)/Hydration and oxidation of citronellol
Cycloparaffins/Catalytic hydrogenation of aromatics in kerosene solvent
Cyclohexanol/Hydrogenation of phenol, distillation
Cyclohexanone/From phenol via cyclohexanol by hydrogenation-dehydrogenation
Dialkyldithiocarbamates, metal salts/Dialkylamines + 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-Ethylhexanol/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 fron 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, epoxidation
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 (S2C12), neutralize with Nickel base
Piperazine/Reductive amination of ethanol amine (ammonia & hydrogenation, metal catalyst)
N,N-Dimethylpiperazine/Condensation piperazine + formaldehyde, hydrogenation

Polyoxylalkylene 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/Isopropyl xanthate + Ethylamine
Toluene diamine (mixture)/Catalytic hydrogenation of dinitrotoluene
Methylated urea-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
Acrylic 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 oxide + 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 + sulfonation, chloromethylation and/or amination
Rayon/Viscose process
SAN resin/Emulsion polymerization
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
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

Dimethoxybenzaldehyde/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 acide + caustic
Ethylenediamine tetraacetic acid, metal salts/Ethylenediamine tetraacetic acid + metal bases
Hydroxyethyl ethylenediamine triacetic acid, trisodium salt/ Ethylenediamine + Ethylene oxide + Formaldehyde + Sodium cyanide, hydrolysis
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
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
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
Tris(anilino)S-triazine/Cyanuric chloride + Aniline and its cogeners
Triethylorthoformate/Ethanol + Hydrogen cyanide
Trimethylorthoformate/Methanol + Hydrogen cyanide

[52 FR 42568, Nov. 5, 1987, as amended at 54 FR 27352, June 29, 1989; 55 FR 26692, June 29, 1990; 57 FR 41844, Sept. 11, 1992]

APPENDIX B TO PART 414—COMPLEXED METAL-BEARING WASTE STREAMS

Chromium

Azo dye intermediates/Substituted diazonium salts + coupling compounds
Vat dyes
Acid dyes
Azo dyes, metallized/Azo dye + metal acetate
Acid dyes, Azo (including metallized)
Organic pigments, miscellaneous lakes and toners

Copper

Disperse dyes
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
Tetraethyl lead/Alkyl halide + sodium-lead alloy
Tetramethyl lead/Alkyl halide + sodium-lead alloy

Nickel

Azo dyes, metallized/Azo dye + metal acetate

Zinc

Organic pigments/Azo pigments by diazotization and coupling

[52 FR 42568, Nov. 5, 1987, as amended at 54 FR 27352, June 29, 1989; 57 FR 41844, Sept. 11, 1992]

PART 415—INORGANIC CHEMICALS MANUFACTURING POINT SOURCE CATEGORY

Subpart A—Aluminum Chloride Production Subcategory

Subpart B—Aluminum Sulfate Production Subcategory

Subpart C—Calcium Carbide Production Subcategory

Subpart D—Calcium Chloride Production Subcategory

Subpart E—Calcium Oxide Production Subcategory

Subpart F—Chlor-alkali Subcategory (Chlorine and Sodium or Potassium Hydroxide Production)