(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)**

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 4 consecutive monitoring days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN, T</td>
<td>1.9</td>
<td>1.0</td>
</tr>
<tr>
<td>Pb</td>
<td>0.6</td>
<td>0.4</td>
</tr>
<tr>
<td>Cd</td>
<td>1.2</td>
<td>0.7</td>
</tr>
<tr>
<td>TSS</td>
<td>20.0</td>
<td>13.4</td>
</tr>
<tr>
<td>pH</td>
<td>(¹)</td>
<td>(¹)</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Milligrams per liter (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTO</td>
<td></td>
<td>4.57</td>
</tr>
</tbody>
</table>

(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:

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Milligrams per liter (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTO</td>
<td></td>
<td>2.13</td>
</tr>
</tbody>
</table>

(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.


technology economically achievable (BAT).
414.34 New source performance standards (NSPS).
414.35 Pretreatment standards for existing sources (PSES).
414.36 Pretreatment standards for new sources (PSNS).

Subpart D—Thermoplastic Resins

414.40 Applicability; description of the thermoplastic resins subcategory.
414.41 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
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).
414.44 New source performance standards (NSPS).
414.45 Pretreatment standards for existing sources (PSES).
414.46 Pretreatment standards for new sources (PSNS).

Subpart E—Thermosetting Resins

414.50 Applicability; description of the thermosetting resins subcategory.
414.51 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
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).
414.54 New source performance standards (NSPS).
414.55 Pretreatment standards for existing sources (PSES).
414.56 Pretreatment standards for new sources (PSNS).

Subpart F—Commodity Organic Chemicals

414.60 Applicability; description of the commodity organic chemicals subcategory.
414.61 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
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).
414.64 New source performance standards (NSPS).
414.65 Pretreatment standards for existing sources (PSES).
414.66 Pretreatment standards for new sources (PSNS).

Subpart G—Bulk Organic Chemicals

414.70 Applicability; description of the bulk organic chemicals subcategory.
414.71 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
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).
414.74 New source performance standards (NSPS).
414.75 Pretreatment standards for existing sources (PSES).
414.76 Pretreatment standards for new sources (PSNS).

Subpart H—Specialty Organic Chemicals

414.80 Applicability; description of the specialty organic chemicals subcategory.
414.81 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
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).
414.84 New source performance standards (NSPS).
Environmental Protection Agency

§ 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 OCP SF products under SIC codes 2865, 2869, or 2821, and the facility’s OCP SF 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...
§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.

<table>
<thead>
<tr>
<th>Effluent characteristics</th>
<th>BPT effluent limitations1</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5</td>
<td>Maximum for any one day</td>
</tr>
<tr>
<td></td>
<td>64</td>
</tr>
<tr>
<td>TSS</td>
<td>130</td>
</tr>
<tr>
<td>pH</td>
<td>(2)</td>
</tr>
</tbody>
</table>

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 OCPSSF production defined by § 414.11 is less than or equal to five (5) million pounds of OCPSSF 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.


(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.

§ 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 § 414.111.

[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

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

<table>
<thead>
<tr>
<th>Effluent characteristics</th>
<th>BPT effluent limitations 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum for any one day</td>
<td>Maximum for monthly average</td>
</tr>
<tr>
<td>BOD5</td>
<td>48</td>
<td>18</td>
</tr>
<tr>
<td>TSS</td>
<td>115</td>
<td>36</td>
</tr>
<tr>
<td>pH</td>
<td>(1)</td>
<td>(1)</td>
</tr>
</tbody>
</table>

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).

(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.

<table>
<thead>
<tr>
<th>Effluent characteristics</th>
<th>NSPS 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum for any one day</td>
<td>Maximum for monthly average</td>
</tr>
<tr>
<td>BOD5</td>
<td>48</td>
<td>18</td>
</tr>
<tr>
<td>TSS</td>
<td>115</td>
<td>36</td>
</tr>
<tr>
<td>pH</td>
<td>(1)</td>
<td>(1)</td>
</tr>
</tbody>
</table>

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

(a) The Agency has determined that for existing point sources whose total OCP SF production defined by §414.11 is less than or equal to five (5) million pounds of OCP SF 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.
§ 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 6-6 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
*Polyvinylflicatate—Methacrylic Copolymers
*Polyvinylflcatate Acrylic Copolymers
*Polyvinylflcatate-2-Ethylhexylacrylate Copolymers
Polyvinylidene Chloride
*Polyvinylidene Chloride Copolymers
*Polyvinylidene-Vinyl Chloride Resins
*PVC Copolymers, Acrylates (Latex)
*PVC Copolymers, Ethylene-Vinyl Chloride
*Resin Derivative Resins
*Resin Modified Resins
*Resin Resins
*SAN Resins
*Silicones: Silicone Resins
*Silicones: Silicone Rubbers
*Styrene Maleic Anhydride Resins
Styrene Polymeric Residue
*Styrene-Acrylonitrile-Copolymer Resins
*Styrene-Acrylonitrile-Copolymers
*Styrene-Butadiene Resins
*Styrene-Butadiene Resins (<50% Butadiene)
*Styrene-Butadiene Resins (latex)
*Styrene-Divinyl Benzene Resins (Ion Exchange)
*Styrene-Methacrylic 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
§ 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.

<table>
<thead>
<tr>
<th>Effluent characteristics</th>
<th>BPT Effluent Limitations 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max. for any one day</td>
<td>Max. for monthly average</td>
</tr>
<tr>
<td>BOD5</td>
<td>64</td>
<td>24</td>
</tr>
<tr>
<td>TSS</td>
<td>130</td>
<td>40</td>
</tr>
<tr>
<td>pH</td>
<td>(2)</td>
<td>(2)</td>
</tr>
</tbody>
</table>

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

§ 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.

<table>
<thead>
<tr>
<th>Effluent characteristics</th>
<th>NSPS 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max. for any one day</td>
</tr>
<tr>
<td>BOD5</td>
<td>64</td>
</tr>
<tr>
<td>TSS</td>
<td>130</td>
</tr>
<tr>
<td>pH</td>
<td>(2)</td>
</tr>
</tbody>
</table>

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

§ 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.

<table>
<thead>
<tr>
<th>Effluent characteristics</th>
<th>BPT effluent limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max. for any one day</td>
</tr>
<tr>
<td>BODS</td>
<td>163</td>
</tr>
<tr>
<td>TSS</td>
<td>216</td>
</tr>
<tr>
<td>pH</td>
<td>(2)</td>
</tr>
</tbody>
</table>

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
Environmental Protection Agency

§ 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.

(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

§ 414.55 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.

<table>
<thead>
<tr>
<th>Effluent characteristics</th>
<th>NSPS 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max-</td>
</tr>
<tr>
<td></td>
<td>imum for any</td>
</tr>
<tr>
<td></td>
<td>one day</td>
</tr>
<tr>
<td></td>
<td>average</td>
</tr>
<tr>
<td>BOD5</td>
<td>163</td>
</tr>
<tr>
<td>TSS</td>
<td>216</td>
</tr>
<tr>
<td>pH</td>
<td>(2)</td>
</tr>
</tbody>
</table>

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

§ 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.

§ 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.

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
Environmental Protection Agency

<table>
<thead>
<tr>
<th>Product Group</th>
<th>Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aliphatic Organic Chemicals</strong></td>
<td>*Acetic Acid Esters&lt;br&gt;Acetic Acid Salts&lt;br&gt;Acetone Cyanohydrin&lt;br&gt;Acetylene&lt;br&gt;Acrylic Acid&lt;br&gt;*Acrylic Acid Esters&lt;br&gt;*Alkoxy Alkanols&lt;br&gt;*Alpha-Olefins&lt;br&gt;Butane (all forms)&lt;br&gt;*C-4 Hydrocarbons (Unsaturated)&lt;br&gt;Calcium Stearate&lt;br&gt;Caprolactam&lt;br&gt;Carboxymethyl Cellulose&lt;br&gt;Cellulose Acetate Butyrates&lt;br&gt;*Cellulose Ethers&lt;br&gt;Cumene Hydroperoxide&lt;br&gt;Cyclohexanol&lt;br&gt;Cyclohexanol, Cyclohexanone (Mixed)&lt;br&gt;Cyclohexanone&lt;br&gt;Cyclohexene&lt;br&gt;*C12–C18 Primary Alcohols&lt;br&gt;*C9 Concentrates&lt;br&gt;Decanol&lt;br&gt;Diacetyl Alcohol&lt;br&gt;*Dicarboxylic Acids—Salts&lt;br&gt;Diethyl Ether&lt;br&gt;Diethylene Glycol&lt;br&gt;Diethylene Glycol Diethyl Ether&lt;br&gt;Diethylene Glycol Dimethyl Ether&lt;br&gt;Diethylene Glycol Monoethyl Ether&lt;br&gt;Diethylene Glycol Monomethyl Ether&lt;br&gt;*Dimer Acids&lt;br&gt;Dioxane&lt;br&gt;Ethane&lt;br&gt;Ethylene Glycol Monophenyl Ether&lt;br&gt;*Ethoxylates, Misc.&lt;br&gt;Ethylenediamine&lt;br&gt;Ethylenediaminetetracetic Acid&lt;br&gt;Glyceraldehyde&lt;br&gt;Hexane&lt;br&gt;*Hexanes and Other C6 Hydrocarbons&lt;br&gt;Isobutanol&lt;br&gt;Isobutylene&lt;br&gt;Isobutyraldehyde&lt;br&gt;Isochorone&lt;br&gt;Isophthalic Acid&lt;br&gt;Isoprene&lt;br&gt;Isopropyl Alcohol&lt;br&gt;Lignin Sulphonic Acid, Calcium Salt&lt;br&gt;Maleic Anhydride&lt;br&gt;Methacrylic Acid&lt;br&gt;*Methacrylic Acid Esters&lt;br&gt;Methane&lt;br&gt;Methyl Ethyl Ketone&lt;br&gt;Methyl Methacrylate&lt;br&gt;Methyl Tert-Butyl Ether&lt;br&gt;Methylisobutyl Ketone&lt;br&gt;*n-Alkanes&lt;br&gt;n-Butyl Alcohol&lt;br&gt;n-Butylacetate&lt;br&gt;n-Butyraldehyde&lt;br&gt;n-Butyric Acid&lt;br&gt;n-Butyric Anhydride&lt;br&gt;*n-Paraffins&lt;br&gt;n-Propyl Alcohol&lt;br&gt;n-Pentyl Alcohol&lt;br&gt;Nitrioltriacetic Acid&lt;br&gt;Nylon Salt&lt;br&gt;Oxalic Acid&lt;br&gt;*Oxo Aldehydes—Alcohols&lt;br&gt;Pentaerythritol&lt;br&gt;Pentane&lt;br&gt;*Pentenes&lt;br&gt;*Petroleum Sulfonates&lt;br&gt;Pine Oil&lt;br&gt;Polyoxybutylene Glycol&lt;br&gt;Polyoxyethylene Glycol&lt;br&gt;Propene&lt;br&gt;Propionaldehyde&lt;br&gt;Propionic Acid&lt;br&gt;Propylene Glycol&lt;br&gt;Sec-Butyl Alcohol&lt;br&gt;Sodium Formate&lt;br&gt;Sorbitol&lt;br&gt;Stearic Acid, Calcium Salt (Wax)&lt;br&gt;Tert-Butyl Alcohol&lt;br&gt;1-Butene&lt;br&gt;1-Pentene&lt;br&gt;1,4-Butanediol&lt;br&gt;Isobutyl Acetate&lt;br&gt;2-Butene (Cis and Trans)&lt;br&gt;2-Ethyl Hexanol&lt;br&gt;2-Ethylbutyraldehyde&lt;br&gt;2,2,4-Trimethyl-1,3-Pentanediol&lt;br&gt;2,4-Diaminotoluene&lt;br&gt;*Alkyl Amines&lt;br&gt;Aniline&lt;br&gt;Caprolactam, Aqueous Concentrate&lt;br&gt;Diethanolamine&lt;br&gt;Diphenylamine&lt;br&gt;*Ethanolamines&lt;br&gt;Ethylenediamine&lt;br&gt;Ethylenebiamide&lt;br&gt;Ethylenediaminetetraacetic Acid&lt;br&gt;*Fatty Amines&lt;br&gt;Hexamethylene Diamine&lt;br&gt;Isopropylamine&lt;br&gt;m-Toluidine&lt;br&gt;Melamine&lt;br&gt;Melamine Crystal&lt;br&gt;*Methylamines&lt;br&gt;Methylene Dianiline&lt;br&gt;n-Butylamine&lt;br&gt;N.N-Diethylaniline&lt;br&gt;N,N-Dimethylformamide&lt;br&gt;*Nitroanilines&lt;br&gt;Polymethylenediamine&lt;br&gt;Sec-Butylamine&lt;br&gt;Tert-Butylamine&lt;br&gt;Toluenediamine (Mixture)</td>
</tr>
</tbody>
</table>
§ 414.71  

Toluidines  
2,6-Dimethylaniline  
4-(N-Hydroxyethylthiamino)-2-Hydroxyethyl Aniline  
4,4′-Methylenebis (N,N′-dimethyl)-aniline  

(c) Aromatic Organic Chemicals  
Alpha-Methylstyrene  
*Alkyl Benzene  
*Alkyl Phenols  
*Alkylbenzene Sulfonic Acids, Salts  
Aminobenzoic Acid (Meta and Para)  
Beta-Naphthalene Sulfonic Acid  
Benzenedisulfonic Acid  
Benzonic Acid  
Bis(2-Ethylhexyl) Phthalate  
Biphenyl A  
BTX-Benzene, Toluene, Xylene (Mixed)  
Butyl Octyl Phthalate  
Coal Tar  
*Coal Tar Products (Misc.)  
Cresol  
*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-3-Methylphenol (6-chloro-m-cresol)  

(e) Other Organic Chemicals  
Adiponitrile  
Carbon Disulfide  
Fatty Nitriles  
*Organic—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.

<table>
<thead>
<tr>
<th>Effluent characteristics</th>
<th>BPT Effluent limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum for any day</td>
</tr>
<tr>
<td>BOD5</td>
<td>92</td>
</tr>
<tr>
<td>TSS</td>
<td>159</td>
</tr>
<tr>
<td>pH</td>
<td>(7)</td>
</tr>
</tbody>
</table>

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

§ 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.

<table>
<thead>
<tr>
<th>Effluent characteristics</th>
<th>BPT effluent limitations ¹</th>
<th>NSPS ²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum for any one day</td>
<td>Maximum for monthly average</td>
</tr>
<tr>
<td>BOD₅</td>
<td>120</td>
<td>45</td>
</tr>
<tr>
<td>TSS</td>
<td>183</td>
<td>57</td>
</tr>
<tr>
<td>pH</td>
<td>(7)</td>
<td>(7)</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Effluent characteristics</th>
<th>Effluent limitations BAT and NSPS</th>
<th>Max. for any one day</th>
<th>Max. for any monthly average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acenaphthene</td>
<td>59</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Acenaphthylene</td>
<td>59</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Acrylonitrile</td>
<td>242</td>
<td>96</td>
<td></td>
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<tr>
<td>Anthracene</td>
<td>59</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>136</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Benzo(a)anthracene</td>
<td>59</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Benzo(b)fluoranthene</td>
<td>61</td>
<td>23</td>
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<tr>
<td>Benzo(k)fluoranthene</td>
<td>59</td>
<td>22</td>
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</tr>
<tr>
<td>Benzo(a)pyrene</td>
<td>61</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Bis(2-ethylhexyl) phthalate</td>
<td>275</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Carbon Tetrachloride</td>
<td>38</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Chlorbenzene</td>
<td>28</td>
<td>15</td>
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</tr>
<tr>
<td>Chloroethane</td>
<td>268</td>
<td>104</td>
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<tr>
<td>Chloroform</td>
<td>46</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>2-Chlorophenol</td>
<td>98</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Chrysene</td>
<td>59</td>
<td>22</td>
<td></td>
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<tr>
<td>Di-n-butyl phthalate</td>
<td>57</td>
<td>27</td>
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<tr>
<td>1,2-Dichlorobenzene</td>
<td>163</td>
<td>77</td>
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<tr>
<td>1,3-Dichlorobenzene</td>
<td>44</td>
<td>31</td>
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<tr>
<td>1,4-Dichlorobenzene</td>
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<td>15</td>
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<tr>
<td>1,1-Dichloroethane</td>
<td>59</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>1,2-Dichloroethane</td>
<td>211</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>1,1-Dichloroethylene</td>
<td>25</td>
<td>16</td>
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<td>1,2-trans-Dichloroethylene</td>
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<td>2,4-Dichlorophenol</td>
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<tr>
<td>1,2-Dichloropropane</td>
<td>230</td>
<td>153</td>
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</tr>
<tr>
<td>1,3-Dichloropropane</td>
<td>44</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Diethyl phthalate</td>
<td>203</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td>2,4-Dimethylphenol</td>
<td>36</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Dimethyl phthalate</td>
<td>47</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>2,4-Dinitrophenol</td>
<td>123</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Di-n-butyl phthalate</td>
<td>277</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>2,4-Dinitrotoluene</td>
<td>285</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>2,6-Dinitrotoluene</td>
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<td>255</td>
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<td>Ethylbenzene</td>
<td>108</td>
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<tr>
<td>Fluoranthene</td>
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<td>25</td>
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<tr>
<td>Fluorene</td>
<td>59</td>
<td>22</td>
<td></td>
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<tr>
<td>Hexachlorobenzene</td>
<td>28</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Hexachlorobutadiene</td>
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<tr>
<td>Hexachloroethane</td>
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<tr>
<td>Methyl Chloride</td>
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<td>Methylene Chloride</td>
<td>89</td>
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<td>Naphthalene</td>
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</tr>
<tr>
<td>Nitrobenzene</td>
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<td>27</td>
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<tr>
<td>2-Nitrophenol</td>
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<tr>
<td>4-Nitrophenol</td>
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<td>Phenanthrene</td>
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<td>Phenol</td>
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<tr>
<td>Pyrene</td>
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<tr>
<td>Tetrachloroethylene</td>
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<td>Toluene</td>
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<tr>
<td>Total Chromium</td>
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</tr>
<tr>
<td>Total Copper</td>
<td>3,380</td>
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<tr>
<td>Total Cyanide</td>
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<td></td>
</tr>
<tr>
<td>Total Lead</td>
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</tr>
<tr>
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<td>Total Zinc</td>
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<tr>
<td>1,2,4-Trichlorobenzene</td>
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<tr>
<td>1,1,1-Trichloroethane</td>
<td>54</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>1,1,2-Trichloroethane</td>
<td>54</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>54</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Vinyl Chloride</td>
<td>268</td>
<td>104</td>
<td></td>
</tr>
</tbody>
</table>

1 All units are micrograms per liter.
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 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 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.
Environmental Protection Agency

§414.111

Effluent characteristics

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Maximum for any one day</th>
<th>Maximum for monthly average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,2-Trichloroethane</td>
<td>59</td>
<td>22</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane</td>
<td>127</td>
<td>32</td>
</tr>
<tr>
<td>Vinyl Chloride</td>
<td>172</td>
<td>97</td>
</tr>
</tbody>
</table>

*All units are micrograms per liter.  
1 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.

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.

<table>
<thead>
<tr>
<th>Effluent characteristics</th>
<th>Maximum for any one day</th>
<th>Maximum for monthly average</th>
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</thead>
<tbody>
<tr>
<td>Acenaphthene</td>
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<tr>
<td>Anthracene</td>
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<tr>
<td>Benzene</td>
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<tr>
<td>Bis(2-ethylhexyl) phthalate</td>
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<td>95</td>
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<tr>
<td>Carbon Tetrachloride</td>
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<tr>
<td>Chlorobenzene</td>
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<td>142</td>
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<td>Chloroethene</td>
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<td>110</td>
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<tr>
<td>Chloroform</td>
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<td>111</td>
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<tr>
<td>Di-n-butyl phthalate</td>
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<tr>
<td>1,2-Dichlorobenzene</td>
<td>794</td>
<td>196</td>
</tr>
<tr>
<td>1,3-Dichlorobenzene</td>
<td>380</td>
<td>142</td>
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<tr>
<td>1,4-Dichlorobenzene</td>
<td>380</td>
<td>142</td>
</tr>
<tr>
<td>1,1-Dichloroethane</td>
<td>59</td>
<td>22</td>
</tr>
<tr>
<td>1,2-Dichloroethane</td>
<td>574</td>
<td>180</td>
</tr>
<tr>
<td>1,1-Dichloroethylene</td>
<td>60</td>
<td>22</td>
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<tr>
<td>1,2-trans-Dichloroethylene</td>
<td>66</td>
<td>25</td>
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<tr>
<td>1,2-Dichloropropane</td>
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<td>196</td>
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<td>Diethyl phthalate</td>
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<td>Dimethyl phthalate</td>
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<td>4,6-Dinitro-o-cresol</td>
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<td>Fluoranthene</td>
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<tr>
<td>Fluorene</td>
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<td>19</td>
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<tr>
<td>Hexachlorobenzene</td>
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<td>196</td>
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<td>Hexachlorobutadiene</td>
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<td>142</td>
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<tr>
<td>Hexachloroethane</td>
<td>794</td>
<td>196</td>
</tr>
<tr>
<td>Methyl Chloride</td>
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<tr>
<td>Methylene Chloride</td>
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<td>4-Nitrophenol</td>
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<tr>
<td>Phenanthrene</td>
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<td>19</td>
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<td>Pyrene</td>
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<tr>
<td>Tetrachloroethylene</td>
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<td>Toluene</td>
<td>74</td>
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<td>Total Cyanide</td>
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<td>Total Lead</td>
<td>690</td>
<td>320</td>
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<tr>
<td>Total Zinc</td>
<td>2,610</td>
<td>1,050</td>
</tr>
<tr>
<td>1,2,4-Trichlorobenzene</td>
<td>794</td>
<td>196</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane</td>
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<tr>
<td>1,1,2-Trichloroethane</td>
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<tr>
<td>Trichloroethylene</td>
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<td>26</td>
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<tr>
<td>Vinyl Chloride</td>
<td>172</td>
<td>57</td>
</tr>
</tbody>
</table>

1 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.
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-Butyroaldehyde, 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
- 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 benzy 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 cyclohexene via cyclohexanol-cyclohexanone mixture
- Allylamine/Allylchloride + 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-Butyroaldehyde, Oxo process
- 1,4-Butanediol/Hydrogenation of 1,4-butylenediol
- Butyro lactone/Dehydrogenation of 1,4-butylenediol
- Caprolactam/From cyclohexane via cyclohexanone and its oxime
- Lilial (hydroxydihydrocitronellal)/Hydrogenation and oxidation of citronellol
- Dialkyldithiocarbamates, metal salts/Dialkylamines + carbon disulfide
- 2-Ethylhexanol/from n-Butyroaldehyde by Aldo condensation and hydrogenation
- Furfuryl alcohol/Oxidation of furfural
- Geraniol/Luteolin (hydroxydihydrocitronellal)/Hydrogenation of fatty nitriles (batch)
- Geranial (Citral)/Oxidation of geraniol (copper catalyst)
- Glyoxal/Oxidation of ethylene glycol
- Isobutanol/Hydrogenation of isobutyraldehyde, Oxo process
- Isoxazole/Polymerization of isoxazole
- 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
- Oxygen/Dehydration of ethyl benzene
- Phenol/Liquid phase oxidation of benzoic acid
- Polyoxalkylene amines/Polyoxyalkylene glycol + ammonia
- Polyphenylene oxide/Solution polymerization of 1,3-butanediol by oxidative coupling (cuprous salt catalyst)
- Polyoxypropylene diamines/Polypropylene glycol + ammonia
- Quinoline/Dehydration of methyl benzy alcohol (coproduct of propylene oxide)
- Silicones, silicone fluids/Hydrolysis and condensation of chlorosilanes
- Silicons, 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
- Styrene/Dehydration of a-Methylbenzyl alcohol (coproduct of propylene oxide)
- Tetrahydrofuran (perchloroethylene)/Oxhydrochlorination of tetrachloroethane
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Tris(anilino)triazine/Cyanuric chloride + aniline + coeners

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

Dialkyldithiocarbamates, 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 (gossypolure)/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 (Bisacyclohexanol-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 acetaldo

1,4-Butanediol/Hydrogenation of 1,4-butyndiol

Butylenes (mixed)/Distillation of 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/Ethylamines (mono, di, tri)/Reducive 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 reactions, low pressure hydrogenation

Hexahydrophthalic anhydride/Condensation of butadiene & maleic anhydride (Diels-Alder reaction) + hydrogenation

Isobutanol/Hydrogenation of isobutyraldehyde, Oxo process

Disobutyl amine/Ammonolysis of isobutanol

Isopropyl amines (mono, di)/Reducive ammination (Ammonia + Hydrogen) of isopropanol

Linalool/Pyrolysis of 2-Pinanol

Methanol/High pressure synthesis from natural gas via synthetic gas

Methanol/Low pressure synthesis 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, epoxidation

Alpha-Oleins/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/Reducive amination of ethanol amine (ammonia & hydrogenation, metal catalyst)

N,N-Dimethylpiperazine/Condensation piperazine + formaldehyde, hydrogenation
<table>
<thead>
<tr>
<th>Chemical/Process</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxylalkylene amines/Polyoxyalkylene glycol + Ammonia</td>
<td>2-Amino-2-methyl-1-propanol/Acid catalyzed hydrolysis of 2-Nitro 2-methyl-1-propanol</td>
</tr>
<tr>
<td>3-Methoxypropyl amine/Reductive amination of acrylamide with methanol + hydrogen</td>
<td>N-Propylamine/Reductive amination (ammonia + hydrogen) of n-propanol</td>
</tr>
<tr>
<td>Sorbitol/Dehydrogenation of sugars</td>
<td>Toluene diamine (mixture)/Acid catalyzed hydrogenation of dinitrotoluene</td>
</tr>
<tr>
<td>Glyoxal-urea formaldehyde textile resin + N,N'-bis (hydroxymethyl) ureas</td>
<td>3-Methylnitrone bis(dichloromethyl) sulfide /Polycondensation of adiponitrile</td>
</tr>
<tr>
<td>Methacrylonitrile resin/Polystyrene + Benzoyl peroxide</td>
<td>Butadiene + Hydrogen cyanide</td>
</tr>
<tr>
<td>Butadiene + Hydrogen cyanide</td>
<td>Methacrylonitrile resin/Polystyrene + Benzoyl peroxide</td>
</tr>
<tr>
<td>Ethenylbenzenzene/Benzene alkylation in liquid phase</td>
<td>Ethylbenzyl chloride/Chloromethylation (Hydrogen chloride + formaldehyde, zinc chloride) of ethylbenzene</td>
</tr>
<tr>
<td>Ethenylbenzyl chloride/Chloromethylation (Hydrogen chloride + formaldehyde, zinc chloride) of ethylbenzene</td>
<td>2-Ethyl hexanol/Aldol condensation-hydrogenation of n-Butyraldehyde</td>
</tr>
</tbody>
</table>

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Glyoxal-urea formaldehyde textile resin/Condensation to N,N'-bis (hydroxymethyl) ureas + N,N'-bis (hydroxymethyl) ureas

Isobutanol/Dehydrogenation of isobutyraldehyde, Oxo process

Isopropanol/Catalytic hydrogenation of acetylene

Methallyliden diacetate/Condensation of 2-Methylnitrofenyl + acetic anhydride

Methanol/Low pressure synthesis of natural gas via synthetic gas

Methyl chloride/Hydrochlorination of methanol

Methylthethyl ketone/Dehydrogenation of sec-Butanol

Naphthenic acid salts

Nylon

Nylon 6 & 66 copolymers/Condensation of Nylon salt + Caprolactam

Nylon 6 fiber/Extrusion (melt spinning)

Oxo alcohols, C12-C15/Hydroformylation & hydrogenation of C12-C14 olefins

Phenolic urethane resins/Phenol + excess formaldehyde + Methylene aniline diisocyanate

Polyene rubber/Polystyrene + sulfonation, chloromethylation and/or alkylation

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 alcohol/Catalytic hydrogenation of acetylene + acetic acid

Vinyl toluene/Condensation of acetylene + acetic acid

Vinyl toluene/Dehydrogenation of ethylbenzene

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

Acrylonitrile/Ammonolysis of propylene

Adiponitrile/Butadiene + Hydrogen cyanide (direct cyanation)

Allylamine/Allyl chloride + Sodium cyanide
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Dimethoxybenzaldehyde/Hydroquinone dimethyl ether + Hydrogen cyanide, hydrolysis
Benzyl cyanide/Benzyl chloride + Sodium cyanide
Coal tar products/Distillation of coal tar condensate
Cyanooacetic acid/Chlorooacetic 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
Ethylendiamine tetraacetic acid/Ethylene diamine + Formaldehyde + Sodium cyanide
Diethylenetriamine pentaacetic acid/Diethylenetriamine + Formaldehyde + Sodium cyanide
N,N'-bis(o-Acetamidophenol)ethylenediamine, ferric complex/ Salicyladehyde + Ethylene diamine + Hydrogen cyanide, hydrolysis to amide
Diethylenetriamine pentaacetic acid, pentasodium salt/Diethylenetriamine pentaacetic acid + caustic
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 nitritrolactonitrile salt
Picolines, mixed/Condensation of acetaldehyde + formaldehyde + ammonia
Organic pigments/Azo/Diazoization of aniline copigment, coupling to B-Naphthol
Pyrimidines, 2-Isopropyl-4-methoxy-/Isobutylpyrimidinol + methanol, ammonia and methylacetacetate (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/Chloromethylthiation (Hydrogen chloride + Formaldehyde) + Sodium cyanide, hydrolysis
Tris(anilino)S-triazine/Cyanuric chloride + Aniline and its congeners
Triethylthioformate/Ethanol + Hydrogen cyanide
Trimethylthioformate/Methanol + Hydrogen cyanide


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-acetamidooanisole
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 diazoization and coupling

PART 415—INORGANIC CHEMICALS MANUFACTURING POINT SOURCE CATEGORY

Subpart A—Aluminum Chloride Production Subcategory
Sec.
415.01 Compliance dates for pretreatment standards for existing sources.
415.10 Applicability; description of the aluminum chloride production subcategory.
415.11 Specialized definitions. [Reserved]
415.12–415.13 [Reserved]
415.14 Pretreatment standards for existing sources (PSES).
415.15 [Reserved]

Subpart B—Aluminum Sulfate Production Subcategory
415.20 Applicability; description of the aluminum sulfate production subcategory.
415.21 Specialized definitions. [Reserved]
415.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
415.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
415.24 Pretreatment standards for existing sources (PSES).

Subpart C—Calcium Carbide Production Subcategory
415.30 Applicability; description of the calcium carbide production subcategory.
415.31 Specialized definitions. [Reserved]
415.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
415.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
415.34 [Reserved]
415.35 New source performance standards (NSPS).
415.36 Pretreatment standards for new sources (PSNS).

Subpart D—Calcium Chloride Production Subcategory
415.40 Applicability; description of the calcium chloride production subcategory.
415.41 Specialized definitions.
415.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
415.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
415.44 [Reserved]
415.45 New source performance standards (NSPS).
415.46 Pretreatment standards for new sources (PSNS).

Subpart E—Calcium Oxide Production Subcategory
415.50 Applicability; description of the calcium oxide production subcategory.
415.51 Specialized definitions. [Reserved]
415.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
415.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
415.54 [Reserved]
415.55 New source performance standards (NSPS).
415.56 Pretreatment standards for new sources (PSNS).

Subpart F—Chlor-alkali Subcategory (Chlorine and Sodium or Potassium Hydroxide Production)
415.60 Applicability; description of the chlorine and sodium or potassium hydroxide production subcategory.
415.61 Specialized definitions.
415.62 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
415.63 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
415.64 Pretreatment standards for existing sources (PSES).
415.65 New source performance standards (NSPS).