Chapter NR 235

ORGANIC CHEMICAL MANUFACTURING

Note: Chapter NR 235 as it existed on March 31, 1997, was repealed and a new chapter NR 235 was created, Register, March, 1997, No. 495, eff. 4-1-97.

Subchapter I - General Provisions

NR 235.01 Purpose. The purpose of this chapter is to establish effluent limitations, performance standards and pretreatment standards for discharges of process wastes from the organic chemicals, plastics and synthetic fibers point source category and its subcategories.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.02 Applicability. c1d This chapter applies to process wastewater discharges from all facilities or portions of facilities that manufacture the organic chemicals, plastics and synthetic fibers cOCPSFd products or product groups covered by subchs. II to VIII and are included within the following U.S. department of commerce bureau of the census standard industrial classification cSICd groups:

cad SIC 2821 - Plastic materials, synthetic resins and nonvulcanizable elastomers.

cbd SIC 2823 - Cellulosic man-made fibers.

ccd SIC 2824 - Synthetic organic fibers, except cellulosic.

cdd SIC 2865 - Cyclic crudes and intermediates, dyes and organic pigments.

ced SIC 2869 - Industrial organic chemicals, not elsewhere classified.

c2d This chapter applies to wastewater discharges from OCPSF research and development, pilot plant, technical service and laboratory bench scale operations if these operations are conducted in conjunction with and related to existing OCPSF manufacturing activities at the facility site.

c3d This chapter does not apply to discharges resulting from the manufacture of OCPSF products included in the following SIC subgroups, if a facility has reported under the following subgroups rather than under the SIC groups listed in sub. c1d:

cad SIC 2843085 - bulk surface active agents.

cbd SIC 28914 - synthetic resin and rubber adhesives.

ccd Chemicals and chemical preparations, not elsewhere classified:

1. SIC 2899568 - sizes, all types.

2. SIC 2899597 - other industrial chemical specialties, including fluxes, plastic wood preparations and embalming fluids.

cdd SIC 2911058 - aromatic hydrocarbons manufactured from purchased refinery products.

ced SIC 2911632 - aliphatic hydrocarbons manufactured from purchased refinery products.

c4d This chapter does not apply to discharges for which a different set of previously promulgated effluent limitations guidelines and standards apply, unless the facility reports OCPSF products under SIC codes 2821, 2865 or 2869, and the facility[s OCPSF wastewaters are treated in a separate treatment system or discharged separately to a POTW.

c5d This chapter does 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.

c6d This chapter does not apply to wastewater discharges of chromium, copper, lead, nickel or zinc in complexed metal-bearing waste streams listed as follows:

cad Chromium:

Acid dyes

Azo acid dyes, including metallized azo acid dyes

Azo dye intermediates from substituted diazonium salts + coupling compounds

Metallized azo dyes from azo dye + metal acetate

Organic pigments, miscellaneous lakes and toners

Vat dyes

cbd Copper:

Acid dyes

Metallized azo dyes from azo dye + metal acetate

Direct dyes

Azo direct dyes

Disperse dyes

Disperse dye coupler from N-substitution of 2-amino-4-acetamidoanisole

Azo and vat disperse dyes

Organic pigments

Organic pigment green 7 from copper phthalocyanine

Organic pigments from phthalocyanine pigments

Organic pigments from copper phthalocyanine cblue cruded

Organic pigments, miscellaneous lakes and toners

Sulfur dyes

Vat dyes

ccd Lead:

Organic pigments, quinacridines

Organic pigments, thioindigoids

Tetraethyl lead from alkyl halide + sodium-lead alloy

Tetramethyl lead from alkyl halide + sodium-lead alloy

cdd Nickel:

Metallized azo dyes from azo dye + metal acetate

ced Zinc:

Organic pigments from azo pigments by diazotization and coupling

c7d This chapter does not apply to discharges of cyanide in cyanide bearing waste streams listed in Appendix A if the department or control authority does the following:

cad Determines that the cyanide limitations and standards are not achievable due to elevated levels of non-amenable 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.

cbd Establishes an alternative total cyanide or amenable cyanide limitation that reflects the best available technology economically achievable.

ccd Bases the determination under par. cad upon a review of relevant engineering, production and sampling and analysis information, including measurements of both total and amenable cyanide in the waste stream.

cdd Analyzes the extent of complexing in the waste stream, based on the foregoing information, and its impact of cyanide treatability in writing and, for direct dischargers, contained in the fact sheet required by 40 CFR 124.8.

c8d 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 and not otherwise determined to be metal-bearing waste streams if the department 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 shall be based upon a review of relevant facility 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 in writing as follows:

cad For direct dischargers:

1. The analysis shall be contained in the fact sheet required by 40 CFR 124.8.

2. The department 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 professional judgment can be reliably measured and the concentrations of the metals present in the waste streams, but not to exceed the applicable limitations contained in ss. NR 235.81 and 235.91.

3. The applicable limitations for zinc which may not be exceeded are those appearing in the tables in ss. NR 235.81 and 235.91, not the alternative limitations listed in footnote 2 to each of these tables.

cbd For indirect dischargers:

1. The control authority may establish standards for lead and zinc for non-Ymetal-bearing waste streamsY between the lowest level which the control authority determines based on best professional judgment can be reliably measured and the concentra-

tion of the metals present in the waste streams, but not to exceed the applicable standards contained in s. NR 235.99.

2. The applicable standards for zinc which may not be exceeded are those appearing in the table in s. NR 235.99 and not the alternative standards in footnote 2 to this table.

ccd The limitations and standards for individual dischargers shall be set on a mass basis by multiplying the concentration allowance established by the department or control authority by the process wastewater flow from the individual waste streams for which incidental metals have been found to be present.

c9d Any existing or new source direct discharge point source subject to 2 or more of subchs. II through VIII shall achieve BOD_5 and TSS discharges not exceeding the quantity or mass determined by multiplying the total OCPSF process wastewater flow subject to subchs. II to VIII times the following OCPSF production-proportioned concentration: For a specific facility, w_x is the proportion of the facility[s total OCPSF production in subcategory X. Then the facility-specific production-proportioned concentration limitations are given by:

$$\text{Plant } BOD_5 \text{ Limit} = \sum_{X=II}^{VIII} cw_x d \; cBOD_5 \text{ Limit}_x d$$

and

$$\text{Plant TSS Limit} = \sum_{X=II}^{VIII} cw_x d \; cTSS \text{ Limit}_x d$$

The $XBOD_5$ $Limit_x Y$ and XTSS $Limit_x Y$ are the respective subcategorical BOD_5 and the TSS maximum for any one day or maximum for monthly average limitations.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.03 Definitions. In addition to the definitions in ss. NR 205.03, 205.04 and 211.03, the following definitions apply to the terms used in this chapter:

c1d XDirect dischargeY means the introduction of pollutants into waters of the state.

c2d XExisting sourceY means any point source, except a new source as defined in sub. c4d, from which pollutants are or may be discharged either to waters of the state or into a publicly owned treatment works.

c3d XIndirect dischargeY means the introduction of pollutants into a publicly owned treatment works.

c4d XNew sourceY means any point source for which the commencement of construction occurred after March 21, 1983, and from which pollutants are or may be discharged either to waters of the state or into a publicly owned treatment works.

c5d XOCPSFY means organic chemicals, plastics and synthetic fibers.

c6d XPriority pollutantsY means the toxic pollutants listed in s. NR 215.03.

c7d XSICY means U.S. department of commerce bureau of the census standard industrial classification.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.04 Compliance dates. **c1d** Any existing source subject to this chapter which discharges to waters of the state shall achieve:

cad The effluent limitations representing BPT by July 1, 1977; and

cbd The effluent limitations representing BAT by July 1, 1984.

c2d Any new source subject to this chapter which discharges to waters of the state shall achieve NSPS at the commencement of discharge.

c3d Any existing source subject to this chapter which introduces process wastewater pollutants into a POTW shall achieve PSES by the date for each parameter as listed in the following tables:

November 5, 1990

Benzene	Hexachloroethane
Carbon tetrachloride	Methyl chloride
Chlorobenzene	Methylene chloride
Chloroethane	Naphthalene
Chloroform	Nitrobenzene
1,2-Dichlorobenzene	2-Nitrophenol
1,3-Dichlorobenzene	4-Nitrophenol
1,4-Dichlorobenzene	Pyrene
1,1-Dichloroethane	Tetrachloroethylene
1,2-Dichloroethane	Toluene
1,1-Dichlorotheylene	Total Cyanide
1,2-trans-Dichloroethylene	Total Lead
1,2-Dichloropropane	Total Zinc
1,3-Dichloropropylene	1,2,4-Trichlorobenzene
4,6-Dinitro-o-cresol	1,1,1-Trichloroethane
Ethylbenzene	1,1,2-Trichloroethane
Hexachlorobenzene	Trichloroethylene
Hexachlorobutadiene	Vinyl Chloride

July 23, 1996

Acenaphthene	Fluoranthene
Anthracene	Fluorene
Bisc2-ethylhexyld phthalate	Naphthalene
Di-N-butyl phthalate	Phenanthrene
Diethyl phthalate	Pyrene
Dimethyl phthalate	

c4d Any new source subject to this chapter which introduces process wastewater pollutants into a POTW shall achieve PSNS at the commencement of discharge.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Subchapter II - Rayon Fibers

NR 235.10 Applicability; description of the rayon fibers subcategory. This subchapter applies to process wastewater discharges resulting from the manufacture of rayon fiber by the viscose process only.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.11 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available cBPTd. Except as provided in 40 CFR 125.30 to 125.32, and in s. NR 235.02 c9d for point sources with production in 2 or more subcategories, any existing point source subject to this subchapter shall achieve the following limitations:

c1d Limitations shall be calculated by multiplying the following concentrations by the manufacturing process wastewater flow:

Rayon Fiber by the Viscose Process

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg{1	mg{1
BOD_5	64	24
TSS	130	40

c2d The pH shall be within the range of 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.12 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable cBATd. **c1d** For existing point sources whose total OCPSF production defined by s. NR 235.02 is less than or equal to 5 million pounds of OCPSF products per year, the BAT level of treatment shall be the same as the BPT level of treatment.

c2d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.81.

c3d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.91.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.13 New source performance standards cNSPSd. **c1d** Any new source that uses end-of-pipe biological treatment and is subject to this subchapter:

cad Shall achieve discharges in accordance with s. NR 235.81.

cbd May not exceed the BPT effluent limitations listed in the table in s. NR 235.11 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

c2d Any new source that does not use end-of-pipe biological treatment and is subject to this section:

cad Shall achieve discharges in accordance with s. NR 235.91.

cbd May not exceed BPT effluent limitations listed in the table in s. NR 235.11 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.14 Pretreatment standards for existing sources cPSESd. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.15 Pretreatment standards for new sources cPSNSd. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Subchapter III - Other Fibers

NR 235.20 Applicability; description of the other fibers category. This subchapter applies 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 the following fibers and fiber groups. Product groups are indicated with an asterisk.

*Acrylic fibers c85% polyacrylonitriled
*Cellulose acetate fibers
*Fluorocarbon cTeflond fibers
*Modacrylic fibers
*Nylon 6 fibers
Nylon 6 monofilament
*Nylon 66 fibers
Nylon 66 monofilament
*Polyamide fibers cQuianad
*Polyaramid cKevlard resin-fibers
*Polyaramid cNomexd resin-fibers
*Polyester fibers
*Polyethylene fibers
*Polypropylene fibers
*Polyurethane fibers cSpandexd

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.21 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available cBPTd. Except as provided in 40 CFR 125.30 to 125.32, and in s. NR 235.02 c9d for point sources with production in 2 or more subcategories, any existing point source subject to this section shall achieve the following limitations:

c1d Limitations shall be calculated by multiplying the following concentrations by the manufacturing process wastewater flow:

Other Fibers

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg{1	mg{1
BOD_5	48	18
TSS	115	36

c2d The pH shall be within the range of 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.22 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable cBATd. **c1d** For existing point sources whose total OCPSF production defined by s. NR 235.02 is less than or equal to 5 million pounds of OCPSF products per year, the BAT level of treatment shall be the same as the BPT level of treatment.

c2d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.81.

c3d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.91.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.23 New source performance standards cNSPSd. c1d Any new source that uses end-of-pipe biological treatment and is subject to this subchapter:

cad Shall achieve discharges in accordance with s. NR 235.81.

cbd May not exceed the BPT effluent limitations listed in the table in s. NR 235.21 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

c2d Any new source that does not use end-of-pipe biological treatment and is subject to this section:

cad Shall achieve discharges in accordance with s. NR 235.91.

cbd May not exceed BPT effluent limitations listed in the table in s. NR 235.21 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.24 Pretreatment standards for existing sources cPSESd. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.25 Pretreatment standards for new sources cPSNSd. Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Subchapter IV - Thermoplastic Resins

NR 235.30 Applicability; description of the thermoplastic resins subcategory. This subchapter applies to the process wastewater discharges resulting from the manufacture of products classified under SIC 28213 thermoplastic resins including the following resins and resin groups. Product groups are indicated with an asterisk.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Thermoplastic Resins

*Abietic Acid and derivatives
*ABS resins
*ABS-SAN resins
*Acrylate-methacrylate latexes
*Acrylic latex
*Acrylic resins
*Cellulose acetate butyrates
Cellulose acetate resin
*Cellulose acetates
*Cellulose acetate propionates
Cellulose nitrate
*Ethylene-methacrylic acid copolymers
*Ethylene-vinyl acetate copolymers
*Fatty acid resins
*Fluorocarbon polymers
Nylon 11 resin
*Nylon 6 to 66 copolymers
*Nylon 6 to nylon 11 blends
Nylon 6 resin
Nylon 612 resin
Nylon 66 resin
*Nylons
*Petroleum hydrocarbon resins
*Polyvinyl pyrrolidone copolymers
*Polycalphadolefins
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
HDPE polyethylene resin
LDPE polyethylene resin
Scrap polyethylene resin
Low MW polyethylene resin, wax
Latex polyethylene resin
Polyethylene resins
*Polyethylene resins, compounded
*Polyethylene chlorinated
*Polyimides
*Polypropylene resins
Crystal polystyrene
Modified crystal polystyrene
*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
Chlorinated polyvinyl chloride
*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, latex acrylates
*PVC copolymers, ethylene vinyl chloride
*Rosin derivative resins
*Rosin modified resins
*Rosin resins
*SAN resins
*Silicone resins
*Silicone rubbers
*Styrene maleic anhydride resins
Styrene polymeric residue
*Styrene acrylic copolymer resins
*Styrene-acrylonitrile-acrylates copolymers
*Styrene-butadiene resins
*Stryrene butadiene resins, less than 50% butadiene
*Styrene butadiene resins, latex
*Styrene-divinyl benzene resins cion exchanged
*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

NR 235.31 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available cBPTd. Except as provided in 40 CFR 125.30 to 125.32, and in s. NR 235.02 c9d for point sources with production in 2 or more subcategories, any existing point source subject to this section shall achieve the following limitations:

c1d Limitations shall be calculated by multiplying the following concentrations by the manufacturing process wastewater flow:

Thermoplastic Resins

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg{1	mg{1
BOD_5	64	24
TSS	130	40

c2d The pH shall be within the range of 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.32 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable cBATd. c1d For existing point sources whose total OCPSF production defined by s. NR 235.02 is less than or equal to 5 million pounds of OCPSF products per year, the BAT level of treatment shall be the same as the BPT level of treatment.

c2d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.81.

c3d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.91.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.33 New source performance standards cNSPSd. c1d Any new source that uses end-of-pipe biological treatment and is subject to this subchapter:

cad Shall achieve discharges in accordance with s. NR 235.81.

cbd May not exceed the BPT effluent limitations listed in the table in s. NR 235.31 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

c2d Any new source that does not use end-of-pipe biological treatment and is subject to this section:

cad Shall achieve discharges in accordance with s. NR 235.91.

cbd May not exceed BPT effluent limitations listed in the table in s. NR 235.31 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.34 Pretreatment standards for existing sources cPSESd. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.35 Pretreatment standards for new sources cPSNSd. Except as provided in s. NR 211.13 any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Subchapter V - Thermosetting Resins

NR 235.40 Applicability; description of the thermosetting resins subcategory. This subchapter applies to process wastewater discharges resulting from the manufacture of the products classified under SIC 28214 thermosetting resins including the following resins and resin groups. Product groups are indicated with an asterisk.

*Alkyd resins
Dicyanodiamide resin
*Epoxy resins
*Fumaric acid polyesters
*Furan resins
Glyoxal-urea formaldehyde textile resins
*Ketone-formaldehyde resins
*Melamine resins
*Phenolic resins
*Polyacetal resins
Polyacrylamide
*Polyurethane prepolymers
*Polyurethane resins
*Urea formaldehyde resins
*Urea resins

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.41 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available cBPTd. Except as provided in 40 CFR 125.30 to

125.32, and in s. NR 235.02 c9d for point sources with production in 2 or more subcategories, any existing point source subject to this section shall achieve the following limitations:

c1d Limitations shall be calculated by multiplying the following concentrations by the manufacturing process wastewater flow:

Thermosetting Resins

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg{1	mg{1
BOD_5	163	61
TSS	216	67

c2d The pH shall be within the range of 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.42 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable cBATd. c1d For existing point sources whose total OCPSF production defined by s. NR 235.02 is less than or equal to 5 million pounds of OCPSF products per year, the BAT level of treatment shall be the same as the BPT level of treatment.

c2d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.81.

c3d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.91.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.43 New source performance standards cNSPSd. c1d Any new source that uses end-of-pipe biological treatment and is subject to this subchapter:

cad Shall achieve discharges in accordance with s. NR 235.81.

cbd May not exceed the BPT effluent limitations listed in the table in s. NR 235.41 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

c2d Any new source that does not use end-of-pipe biological treatment and is subject to this section:

cad Shall achieve discharges in accordance with s. NR 235.91.

cbd May not exceed BPT effluent limitations listed in the table in s. NR 235.41 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.44 Pretreatment standards for existing sources cPSESd. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.45 Pretreatment standards for new sources cPSNSd. Except as provided in s. NR 211.13 any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Subchapter VI - Commodity Organic Chemicals

NR 235.50 Applicability; description of the commodity organic chemicals subcategory. This subchapter applies 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.

Commodity Organic Chemicals	
Aliphatic Organic Chemicals	1,2-Dichloroethane
Acetaldehyde	1,3-Butadiene
Acetic acid	Aromatic Organic Chemicals
Acetic anhydride	Benzene
Acetone	Cumene
Acrylonitrile	Dimethyl terephthalate
Adipic acid	Ethylbenzene
*Butylenes cbutenesd	Phenol
Cyclohexane	*Pitch tar residues
Ethanol	*Pyrolysis gasolines
Ethylene	Styrene
Ethylene glycol	Terephthalic acid
Ethylene oxide	Toluene
Formaldehyde	*Xylenes, mixed
Isopropanol	o-Xylene
Methanol	m-Xylene cimpured
Polyoxypropylene glycol	p-Xylene
Propylene	Halogenated Organic Chemicals
Propylene oxide	Vinyl chloride
Vinyl acetate	

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.51 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available cBPTd. Except as provided in 40 CFR 125.30 to 125.32, and in s. NR 235.02 c9d for point sources with production in 2 or more subcategories, any existing point source subject to this section shall achieve the following limitations:

c1d Limitations shall be calculated by multiplying the following concentrations by the manufacturing process wastewater flow:

Commodity Organic Chemicals

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg{1	mg{1
BOD_5	80	30
TSS	149	46

c2d The pH shall be within the range of 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.52 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable cBATd. c1d For existing point sources whose total OCPSF production defined by s. NR 235.02 is less than or equal to 5 million pounds of OCPSF products per year, the BAT level of treatment shall be the same as the BPT level of treatment.

c2d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.81.

c3d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.91.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.53 New source performance standards cNSPSd. c1d Any new source that uses end-of-pipe biological treatment and is subject to this subchapter:

cad Shall achieve discharges in accordance with s. NR 235.81.

cbd May not exceed the BPT effluent limitations listed in the table in s. NR 235.51 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

c2d Any new source that does not use end-of-pipe biological treatment and is subject to this section:

cad Shall achieve discharges in accordance with s. NR 235.91.

cbd May not exceed BPT effluent limitations listed in the table in s. NR 235.51 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.54 Pretreatment standards for existing sources cPSESd. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.55 Pretreatment standards for new sources cPSNSd. Except as provided in s. NR 211.13 any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Subchapter VII - Bulk Organic Chemicals

NR 235.60 Applicability; description of the bulk organic chemicals subcategory. This subchapter applies 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.

Bulk Organic Chemicals

c1d Aliphatic Organic Chemicals	
*Acetic acid esters	Isophthalic acid
*Acetic acid salts	Isoprene
Acetone cyanohydrin	Isopropyl acetate
Acetylene	Ligninsulfonic acid, calcium salt
Acrylic acid	Maleic anhydride
*Acrylic acid esters	Methacrylic acid
*Alkoxy alkanols	*Methacrylic acid esters
*Alkylates	Methane
*Alpha-olefins	Methyl ethyl ketone
Butane call formsd	Methyl methacrylate
*C-4 Unsaturated hydrocarbons	Methyl tert-butyl ether
Calcium stearate	Methylisobutyl ketone
Caprolactam	*n-Alkanes
Carboxymethyl cellulose	n-Butyl alcohol
Cellulose acetate butyrates	n-Butylacetate
*Cellulose ethers	n-Butyraldehyde
Cumene hydroperoxide	n-Butyric acid
Cyclohexanol	n-Butyric anhydride
Cyclohexanol, cyclohexanone mixed	*n-Paraffins
Cyclohexanone	n-Propyl acetate
Cyclohexene	n-Propyl alcohol
*C12-C18 Primary alcohols	Nitrilotriacetic acid
*C5 concentrates	Nylon salt
*C9 concentrates	Oxalic acid
Decanol	*Oxo aldehydes-alcohols
Diacetone alcohol	Pentaerythritol
*Dicarboxylic acids salts	Pentane
Diethyl ether	*Pentenes
Diethylene glycol	*Petroleum sulfonates
Diethylene glycol diethyl ether	Pine oil
Diethylene glycol dimethyl ether	Polyoxybutylene glycol
Diethylene glycol monoethyl ether	Polyoxyethylene glycol

c1d Aliphatic Organic Chemicals

Diethylene glycol monomethyl ether	Propane
*Dimer acids	Propionaldehyde
Dioxane	Propionic acid
Ethane	Propylene glycol
Ethylene glycol monophenyl ether	Sec-butyl alcohol
*Miscellaneous ethoxylates	Sodium formate
Ethylene glycol dimethyl ether	Sorbitol
Ethylene glycol monobutyl ether	Stearic acid, calcium salt cwaxd
Ethylene glycol monoethyl ether	Tert-Butyl alcohol
Ethylene glycol monomethyl ether	1-Butene
Synthetic glycerine	1-Pentene
Glyoxal	1,4-Butanediol
Hexane	Isobutyl acetate
*Hexanes and other C6 hydrocarbons	2-Butene ccis and transd
Isobutanol	2-Ethyl hexanol
Isobutylene	2-Ethylbutyraldehyde
Isobutyraldehyde	2,2,4-Trimethyl-1,3-pentanediol
Isophorone	

c2d Amine and Amide Organic Chemicals

2,4-Diaminotoluene	*Methylamines
*Alkyl amines	Methylene dianiline
Aniline	n-Butylamine
Caprolactam, aqueous concentrate	N,N-Diethylaniline
Diethanolamine	N,N-Dimethylformamide
Diphenyl amine	*Nitroanilines
*Ethanolamines	Polymeric methylene dianiline
Ethylamine	Sec-Butylamine
Ethylenediamine	Tert-Butylamine
Ethylenediaminetetraacetic acid	Toluenediamine cmixtured
*Fatty amines	*Toluidines
Hexamethylene diamine	o-Phenylenediamine
Isopropylamine	2,6-Dimethylaniline
m-Toluidine	4-cN-Hydroxyethylethylaminod-2-hydroxyethyl aniline
Melamin	4,4[-Methylenebis cN,N[-dimethyld-aniline
Melamine crystal	4,4[-Methylenedianiline

c3d Aromatic Organic Chemicals

Alpha-methylstyrene	Dimethyl phthalate
*Alkyl benzenes	Dinitrotoluene cmixedd
*Alkyl phenols	Ditridecyl phthalate
*Alkylbenzene sulfonic acids, salts	m-Cresol
*Aminobenzoic acid cmeta and parad	Metanilic acid
Beta-Naphthalene sulfonic acid	Methylenediphenyldiisocyanate
Benzenedisulfonic acid	Naphthalene
Benzoic acid	*Naphthas, solvent
Bisc2-ethylhexyldphthalate	Nitrobenzene
Bisphenol A	Nitrotoluene
BTX-benzene, toluene, xylene cmixedd	Nonylphenol
Butyl octyl phthalate	p-Cresol
Coal tar	Phthalic acid
*Coal tar products cmisc.d	Phthalic anhydride
Creosote	*Tars-pitches
*Cresols, mixed	Tert-Butylphenol
Cyanuric acid	*Toluene diisocyanates cmixtured

Cyclic aromatic sulfonates	Trimellitic acid
Dibutyl phthalate	o-Cresol
Diisobutyl phthalate	1-Tetralol, 1-tetralone mix
Diisodecyl phthalate	2,4-Dinitrotoluene
Diisooctyl phthalate	2,6-Dinitrotoluene

c4d Halogenated Organic Chemicals

1,4-Phenylenediamine dihydrochloride	Dichloropropane
Allyl chloride	Epichlorohydrin
Benzyl chloride	Ethyl chloride
Carbon tetrachloride	*Fluorocarbons cFreonsd
*Chlorinated paraffins, 35-64 PCT, Chlorine	Methyl chloride
Chlorobenzene	Methylene chloride
*Chlorobenzenes cmixedd	Pentachlorophenol
Chlorodifluoroethane	Phosgene
Chloroform	Tetrachloroethylene
*Chloromethanes	Trichloroethylene
2-Chloro-5-methylphenol c6-chloro-m-cresold	Trichlorofluoromethane
*Chlorophenols	Vinylidene chloride
Chloroprene	1,1-Dichloroethane
Cyanogen chloride	1,1,1-Trichloroethane
Cyanuric chloride	2,4-Dichlorophenol

c5d Other Organic Chemicals

Adiponitrile	*Phosphate esters
Carbon disulfide	Tetraethyl lead
Fatty Nitriles	Tetramethyl lead
*Organo-tin compounds	Urethane prepolymers

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.61 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available cBPTd. Except as provided in 40 CFR 125.30 to 125.32, and in s. NR 235.02 c9d for point sources with production in 2 or more subcategories, any existing point source subject to this section shall achieve the following limitations:

c1d Limitations shall be calculated by multiplying the following concentrations by the manufacturing process wastewater flow:

Bulk Organic Chemicals

BPT Effluent Limitations

	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg{1	mg{1
BOD_5	92	34
TSS	159	49

c2d The pH level shall be within the range of 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.62 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable cBATd. c1d For existing point sources whose total OCPSF production defined by s. NR 235.02 is less than or equal to 5 million pounds of OCPSF products per year, the BAT level of treatment shall be the same as the BPT level of treatment.

c2d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.81.

c3d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.91.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.63 New source performance standards cNSPSd. c1d Any new source that uses end-of-pipe biological treatment and is subject to this subchapter:

cad Shall achieve discharges in accordance with s. NR 235.81.

cbd May not exceed the BPT effluent limitations listed in the table in s. NR 235.61 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

c2d Any new source that does not use end-of-pipe biological treatment and is subject to this section:

cad Shall achieve discharges in accordance with s. NR 235.91.

cbd May not exceed BPT effluent limitations listed in the table in s. NR 235.61 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.64 Pretreatment standards for existing sources cPSESd. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.65 Pretreatment standards for new sources cPSNSd. Except as provided in s. NR 211.13 any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Subchapter VIII - Specialty Organic Chemicals

NR 235.70 Applicability; description of the specialty organic chemicals subcategory. This subchapter applies 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 chemicals in s. NR 235.50 or bulk organic chemicals in s. NR 235.60.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.71 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available cBPTd. Except as provided in 40 CFR 125.30 to 125.32, and in s. NR 235.02 c9d for point sources with production in 2 or more subcategories, any existing point source subject to this section shall achieve the following limitations:

c1d Limitations shall be calculated by multiplying the following concentrations by the manufacturing process wastewater flow:

Specialty Organic Chemicals

BPT Effluent Limitations		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	mg{1	mg{1
BOD_5	120	45
TSS	183	57

c2d The pH shall be within the range of 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.72 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable cBATd. c1d For existing point sources whose total OCPSF production defined by s. NR 235.02 is less than or equal to 5 million pounds of OCPSF products per year, the BAT level of treatment shall be the same as the BPT level of treatment.

c2d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that uses end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.81.

c3d Except as provided in sub. c1d and in 40 CFR 125.30 to 125.32, any existing point source that does not use end-of-pipe biological treatment and is subject to this subchapter shall achieve discharges in accordance with s. NR 235.91.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.73 New source performance standards cNSPSd. c1d Any new source that uses end-of-pipe biological treatment and is subject to this subchapter:

cad Shall achieve discharges in accordance with s. NR 235.81.

cbd May not exceed the BPT effluent limitations listed in the table in s. NR 235.71 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

c2d Any new source that does not use end-of-pipe biological treatment and is subject to this section:

cad Shall achieve discharges in accordance with s. NR 235.91.

cbd May not exceed BPT effluent limitations listed in the table in s. NR 235.71 c1d; and

ccd Shall maintain the pH within 6.0 to 9.0 at all times.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.74 Pretreatment standards for existing sources cPSESd. Except as provided in ss. NR 211.13 and 211.14, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.75 Pretreatment standards for new sources cPSNSd. Except as provided in s. NR 211.13 any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve discharges in accordance with s. NR 235.99.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Subchapter IX - Direct Discharge Point Sources That Use End-Of-Pipe Biological Treatment

NR 235.80 Applicability; description of the subcategory of direct discharge point sources that use end-of-pipe biological treatment. This subchapter applies to the process wastewater discharges resulting from the manufacture of the OCPSF products and products groups defined by s. NR 235.02 from any point source that uses end-of-pipe biological treatment or installs end-of-pipe biological treatment to comply with BPT effluent limitations.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.81 Toxic pollutant effluent limitations and standards for direct discharge point sources that use end-of-pipe biological treatment. c1d Any point source subject to this subchapter must achieve discharges not exceeding the quantity determined by multiplying the process wastewater flow times the concentrations in the following table.

c2d For chromium, copper, lead, nickel, zinc and total cyanide:

cad The discharge quantity shall be determined by multiplying the concentrations listed in the following table for these pollutants times the flow from the metal-bearing waste streams for the metals and times the flow from the cyanide bearing waste streams for total cyanide.

cbd The metal-bearing waste streams and cyanide-bearing waste streams are defined as:

1. Those waste streams listed in Appendix A.

2. 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.

ccd Any streams designated under par. cbd 2. shall 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 shall be based upon a review of relevant engineering, production and sampling information.

Sources Using End of Pipe Biological Treatment

BAT Effluent Limitations and NSPS[1]		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	µg{l	µg{l
Acenaphthene	59	22
Acenaphthylene	59	22
Acrylonitrile	242	96
Anthracene	59	22
Benzene	136	37
Benzocadanthracene	59	22
3,4-Benzofluoranthene	61	23
Benzockdfluoranthene	59	22
Benzocadpyrene	61	23
Bisc2-ethylhexyldphthalate	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 maximum for any one day and 3,325 µg{l maximum for monthly average.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Subchapter X - Direct Discharge Point Sources That Do Not Use End-of-Pipe Biological Treatment

NR 235.90 Applicability; description of the subcategory of direct discharge point sources that do not use end-of-pipe biological treatment. This subchapter applies to the process wastewater discharges resulting from the manufacture of the OCPSF products and product groups defined by s. NR 235.02 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.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.91 Toxic pollutant effluent limitations and standards for direct discharge point sources that do not use end-of-pipe biological treatment. c1d Any point source subject to this subchapter must achieve discharges not exceeding the quantity determined by multiplying the process wastewater flow times the concentrations in the following table.

c2d For chromium, copper, lead, nickel, zinc and total cyanide:

cad The discharge quantity shall be determined by multiplying the concentrations listed in the following table for these pollutants times the flow from the metal-bearing waste streams for the metals and times the flow from the cyanide bearing waste streams for total cyanide.

cbd The metal-bearing waste streams and cyanide-bearing waste streams are defined as:

1. Those waste streams listed in Appendix A.

2. 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.

ccd Any streams designated under par. cbd 2. shall 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 shall be based upon a review of relevant engineering, production and sampling information.

Sources Not Using End of Pipe Biological Treatment

BAT Effluent Limitations and NSPS[1]		
	Maximum for any 1 day	Maximum for monthly average
Pollutant or pollutant property	µg{l	µg{l
Acenaphthene	47	19
Acenaphthylene	47	19
Acrylonitrile	232	94
Anthracene	47	19
Benzene	134	57
Benzocadanthracene	47	19
3,4-Benzofluoranthene	48	20
Benzockdfluoranthene	47	19
Benzocadpyrene	48	20
Bisc2-ethylhexyldphthalate	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
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 maximum for any one day and 3,325 µg{l maximum for monthly average.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Subchapter XI - Indirect Discharge Point Sources

NR 235.98 Applicability; description of the subcategory of indirect discharge point sources. This subchapter applies to the process wastewater discharges resulting from the manufacture of the OCPSF products and products groups defined by s. NR 235.02 from any indirect discharge point source.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

NR 235.99 Toxic pollutant standards for indirect discharge point sources. c1d Any point source subject to this subchapter must achieve discharges not exceeding the quantity determined by multiplying the process wastewater flow times the concentrations in the following table.

c2d For chromium, copper, lead, nickel, zinc and total cyanide:

cad The discharge quantity shall be determined by multiplying the concentrations listed in the following table for these pollutants times the flow from the metal-bearing waste streams for the metals and times the flow from the cyanide bearing waste streams for total cyanide.

cbd The metal-bearing waste streams and cyanide-bearing waste streams are defined as:

1. Those waste streams listed in Appendix A.

2. 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.

ccd Any streams designated under par. cbd 2. shall 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 shall be based upon a review of relevant engineering, production, and sampling information.

PSES and PSNS[1]

Pollutant or pollutant property	Maximum for any 1 day µg{l	Maximum for monthly average µg{l
Acenaphthene	47	19
Anthracene	47	19
Benzene	134	57
Bisc2-ethylhexyldphthalate	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
Hexachlorethane	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 maximum for any one day and 3,325 µg{l maximum monthly average.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

APPENDIX A TO CHAPTER NR 235 - NONCOMPLEXED METAL-BEARING WASTE STREAMS AND CYANIDE-BEARING WASTE STREAMS

Chromium Bearing Waste Streams

Product	Process
Methylhydroabietate	Esterification of hydroabietic acid crosind 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	Batch hydrogenation of fatty nitriles
Heliotropin	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 and 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 c1,2,3,4- tetrahydronaphthalened
3,3,3-Trifluoropropene	Catalyzed hydrogen fluoride exchange with chlorinated propane
Vinyl toluene	Thermal dehydrogenation of ethyltoluene

Copper Bearing Waste Streams

Product	Process
Methylhydroabietate	Esterfication of hydroabietic acid crosind 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
Adiptic 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 chydroxydihydrocitronellald	Hydration and oxidation of citronellol

Product	Process
1,2-Dichloroethane	Oxyhydrochlorination of ethylene
Dialkyldithiocarbamates, metal salts	Dialkylamines + carbon disulfide
2-Ethylhexanol	From n-butyraldehyde by aldo condensation and hydrogenation
Fatty amines	Batch hydrogenation of fatty nitriles
Geraniol	B-Myrcene + hydrogen chloride, esterfication of geranyl chloride hydrolysis of geranyl acetate
Furfuryl alcohol	Hydrogenation of furfural
Geraniol ccitrald	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
C7-C11 oxo alcohols	Carbonation and 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 crotonaldehye
Silicone fluids	Hydrolysis and condensation of chlorosilanes
Silicone rubbers	Hydrolysis and condensation of chlorosilanes
Silicone specialties, such as grease, dispersion agents, de-foamers, and other products	
Silicone resins	Hydrolysis and condensation of methyl, phenyl, and vinyl chlorosilanes
Silicone fluids	Hydrolysis of chlorosilanes to acyclic and cyclic organosiloxanes
Styrene	Dehydration of a-methylbenzyl alcohol, coproduct of propylene oxide
Tetrachloroethylene cperchloroethylened	Oxyhydrochlorination of tetrachloroethane
Triscanilinods-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

Cyanide Bearing Waste Streams

Product	Process
Acetone cyanohydrin	Acetone + hydrogen cyanide
Acetonitrile	By-product of acrylonitrile from propylene by ammoxidation
Acrylic resins	Solution polymerization
Acrylic fiber c85% acrylonitriled	Suspension polymerization and wet spinning
Acrylic fiber c85% acrylonitriled	Solution polymerization and wet spinning
Acrylonitrile	Ammoxidation of propylene
Adiponitrile	Butadiene + hydrogen cyanide cdirect cyanationd
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; or N-phenylglycine + aniline +formaldehyde + sodium bisulfite, sodium cyanide hydrolysis with potassium hydroxide
Disperse dyes, azo and vat	
Ethylenediamine tetraacetic acid	Ethylene diamine + formaldehyde + sodium cyanide
Diethylenetriamine pentaacetic acid	Diethylenetriamine + formaldehyde + sodium cyanide
N,N[-Bisco-acetamidophenoldethylene- diamine, ferric complex	Salicylaldehyde + ethylene diamine + hydrogen cyanide, hydrolysis to amide
Diethylenetriamine pentaacetic acid, pentasodium salts	Diethylenetriamine pentaacetic acid + caustic
Hydroxyethyl ethylenediamine triacetic acid, trisodium salt	Ethylene diamine + ethylene oxide + formaldehyde + sodium cyanide, hydrolysis
5,5 Dimethyl hyantoin	Acetone + ammonia + carbon dioxide + hydrogen cyanide
Hydrogen cyanide	Byproduct 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
2-Isopropyl-4-methoxy-pyrimidines	Isobutyronitril + methanol, ammonia and methylacetoacetate, ring closure
Synthetic pyridine	Condensation of acetaldehyde + ammonia + formaldehyde
Cyanopyridine	Ammoxidation of picoline
Sarcosine cN-methyl glycined sodium salt	Hexamethylene tetraamine + sodium cyanide, hydrolysis
Thiophene acetic acid	Chloromethylation chydrogen chloride + formaldehyded + sodium cyanide, hydrolysis
TriscanilinodS-triazine	Cyanuric chloride + aniline and its cogeners
Triethylorthoformate	Ethanol + hydrogen cyanide
Trimethylorthoformate	Methanol + hydrogen cyanide

Lead Bearing Waste Streams

Product	**Process**
Alkyd resin	Condensation polymerization
Alkyd resins	Condensation polymerization of phthalic anhydride + glycerin + vegetable oil esters
Dialkyldithiocarbamates, metal salts	Dialkylamines + carbon disulfide
Thiuram cdimethyldithiocarbamated hexasulfide	Dimethyldithiocarbamate + sulfur
Triphenylmethane dyes cmethyl violetd	Condensation of formaldehyde + N-methylaniline + N,N-dimethylaniline, oxidation of reaction product
4,4-BiscN,N-dimethylanilined carbinol, Michler[s hydrol	Oxidation of 4,4-methanylene-biscN,N-dimethylanilined with lead oxide
Naphthenic acid salts	
Stearic acid, metal salts	Neutralization with a metallic base

Nickel Bearing Waste Streams

Product	Process
Acetates, 7,11-hexadecadien-1-ol cgossyplured	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 cethylene oligomersd
Adiponitrile	Direct cyanation of butadiene
Alkyl amines	Amination of alcohols
4-Aminoacetanilide	Hydrogenation of 4-Nitroacetanilide
BTX	Hydrogenation of olefins ccyclohexenesd
Hydrogenated terphenyls	Nickel catalyst, hydrogenation of terphenyl
Bisphenol-A, hydrogenated cbiscyclohexanol-Ad	Hydrogenation of bisphenol-A
Butadiene c1,3d	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 of C4 pyrolyzates
4-Chloro-2-aminophenol	Hydrogenation of 4-chloro-2-nitrophenol
Lilial chydroxydihydrocitronellald	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 cmono, di, and trid	Reductive amination cammonia + hydrogend of ethanol
Isoeugenol, high percent trans	Separation of mixed cis and trans isoeugenols
2-Ethylhexanol	From n-butyraldehyde by aldol condensation and hydrogenation
Hydrogenated fatty acids	Tallow and coco acids + hydrogen
Fatty amines	Batch hydrogenation of fatty nitriles
Fatty amines	Hydrogenation of tallow and coco nitriles
Glyoxal-urea formaldehyde textile resin	Condensation to N-bischydroxymethyldureas and N,N[-dichydroxyethyld ureas
11-Hexadecenal	Coupling reactions, low pressure hydrogenation
Hexahydrophthalic anhydride	Condensation of butadiene and maleic anhydride cDiels-Alder reactiond + hydrogenation
Isobutanol	Hydrogenation of isobutyraldehyde, oxo process
Diisobutyl amine	Ammonolysis of isobutanol
Isopropyl amines cmono, did	Reductive amination cammonia + hydrogend 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-chydroxymethyldmethyl amine	Hydrogenation of trischydroxymethyld nitromethane
N-Methyl morpholine	Morpholine + methanol
N-Ethyl morpholine	Morpholine + ethanol
2-Methyl-7,8-epoxy octadecane	Coupling reactions, low pressure hydrogenation, epoxidation

Product	Process
Alpha-olefins	Ethylene oligomer and Zeigler catalyst
Petroleum hydrocarbon resins, hydrogenated	Hydrogenation of petroleum hydrocarbon resin products
Pinane	Hydrogenation of A-pinene
2-Pinanol	Reduction of pinane hydroperoxide
Bis-cp-octylphenoldsulfide, nickel salt	p-Octylphenol + sulfur chloride cS2C12d neutralize with nickel base
Piperazine	Reductive amination of ethanol amine cammonia and hydrogenation metal catalystd
N,N-Dimethylpiperazine	Condensation piperazine + formaldehyde hydrogenation
Polyoxyalkylene 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 and hydrogen
N-Propylamine	Reductive amination cammonia + hydrogend of n-propanol
Sorbitol	Hydrogenation of sugars
Sulfolane	Condensation butadiene + sulfur dioxide, hydrogenation
Thionocarbamates, N-ethyl-o-isopropyl	Isopropyl xanthate + ethylamine
Toluene diamine cmixtured	Catalytic hydrogenation of dinitrotoluene
Methylated urea formaldehyde resins ctextiled	Methylation of urea-formaldehyde adduct
Methylated urea-formaldehyde glyoxol ctextile resinsd	Reaction of methylated urea- formaldehyde + glyoxal

Zinc Bearing Waste Streams

Product	Process
Methylhydroabietate, diels-alder adducts	Derivatives of abietic esters from rosin
Acrylic resins	Emulsion or solution polymerization to coatings
Acrylic resins clatexd	Emulsion polymerization of acrylonitrile with polybutadiene
Acrylic fibers c85% polyacrylonitriled	By solution polymerization{wet spinning
Alkyd resins	Condensation polymerization of phthalic anhydride + glycerin + vegetable oil esters
Benzene	By-product of styrene by ethyl- benzene dehydrogenation
Benzene	Byproduct of vinyl toluene from ethyl toluene
n-Butyl alcohol	Hydrogenation of n-butyraldehyde, oxo process
Coumarin cbenz-a-pyroned	Salicylaldehyde, Oxo process
Cycloparaffins	Catalytic hydrogenation of aromatics in kerosene solvent
Dithiocarbamates, zinc salt	Reaction of zinc oxide + sodium dithiocarbamates
Dialkyldithiocarbamates, metal salts	Dialkylamines + carbon disulfide
Dithiocarbamates, metal salts	Dithiocarbamic acid + metal oxide
Thiuram cdimethyldithiocarbamated hexasulfide	Dimethyldithiocarbamate + sulfur
Fluorescent brighteners	Coumarin based
Ethyl acetate	Redox reaction cTschenkod of acetaldehyde
Ethylbenzene	Benzene alkylation in liquid phase
Ethylbenzyl chloride	Chloromethylation chydrogen chloride + formaldehyde, zinc chlorided of ethylbenzene
2-Ethyl hexanol	Aldol condensation-hydrogenation of n-butyraldehyde
Glyoxal-urea formaldehyde textile resin	Condensation to N-bis chydroxymethyld ureas + N,N[-cdihydroxyethyld ureas
Isobutanol	Hydrogenation of isobutyraldehyde, Oxo process
Isopropanol	Catalytic hydrogenation of acetone

Product	Process
Methallylidene diacetate	Condensation of 2-methypropenal + acetic anhydride
Methanol	Low pressure synthesis from natural gas via synthetic gas
Methyl chloride	Hydrochlorination of methanol
Methylethyl ketone	Dehydrogenation of sec-butanol
Naphthenic acid salts	
Nylon	
Nylon 6 and 66 copolymers	Polycondensation of nylon salt + caprolatam
Nylon 6 fiber	Extrusion melt spinning
C12-C15 oxo alcohols	Hydroformylation and 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
Silicone rubbers	Hydrolysis and condensation of chlorosilanes
Silicone specialties, such as grease, dispersion agents, de-foamers, and other products	
Silicone resins	Hydrolysis and condensation of methyl, phenyl, and vinyl chlorosilanes
Silicone fluids	Hydrolysis of chlorosilanes to acyclic and cyclic organosiloxanes Neutralization with a metallic base
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	Thermal dehydrogenation of ethyltoluene
Xylenes, mixed	By-product vinyl toluene from ethyltoluene

Note: The Wisconsin administrative code corresponds to the code of federal regulations according to the following table:

State Code	Code of Federal Regulations
s. NR 205.03	40 CFR 401.11
s. NR 205.04	40 CFR 401.11
ch. NR 211	40 CFR Part 403
s. NR 211.03	40 CFR 403.3
s. NR 211.13	40 CFR 403.7
s. NR 211.14	40 CFR 403.17
ch. NR 235	40 CFR Part 414