

Chapter NR 280

PLASTICS AND SYNTHETICS

(Interim Effluent Limitations)

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Note: Pursuant to chapter 147, Wis. Stats. and under the procedure of section 227.027, Wis. Stats., the department of natural resources has promulgated interim effluent limitations which were in effect for one year. These interim effluent limitations will be periodically replaced by permanent effluent limitations.

NR 280.01 Purpose. The purpose of this chapter is to establish effluent limitations, standards of performance, and pretreatment standards for discharges of process wastes from the synthetic resin manufacturing category of point sources and subcategories thereof.

Note: The authority for promulgation of this chapter is set forth in Wis. Adm. Code chapter NR 205.

History: Cr. eff. 2-28-75.

NR 280.02 Applicability. The effluent limitations, standards of performance, pretreatment standards and other provisions in this chapter are applicable to pollutants or pollutant properties in discharges of process waste resulting from the manufacture of synthetic resins and plastics in the following subcategories:

- (1) Polyvinyl chloride produced from vinyl chloride by:
 - (a) Suspension polymerization and associated processing,
 - (b) Emulsion polymerization and associated processing, and
 - (c) Bulk polymerization and associated processing,
- (2) Polyvinyl acetate produced by polymerization of vinyl acetate and associated processing;
- (3) Polystyrene produced from styrene by:
 - (a) The suspension polymerization process, and
 - (b) The bulk polymerization process;
- (4) Polypropylene produced by the polymerization of propylene and associated processing;
- (5) Polyethylene produced from ethylene by:
 - (a) The polymerization process to produce low density polyethylene,
 - (b) The solvent process to produce high density polyethylene, and

- (c) The polyform process to produce high density polyethylene;
- (6) Cellophane produced by processing wood pulp and associated processing;
- (7) Rayon produced by processing wood pulp and associated processing;
- (8) ABS and SAN resins which are respectively acrylonitrile-butadiene-styrene and styrene-acrylonitrile resins produced by the polymerization reactions of acrylonitrile, butadiene and styrene, and associated processing;
- (9) Polyester materials produced by the polymerization reaction of dihydric alcohol and terephthalic acid or dimethyl terephthalate and subsequent processing to make:
 - (a) Polyester resin by batch processing,
 - (b) Polyester fiber by batch processing,
 - (c) Polyester resin and fiber by continuous processing, and
 - (d) Polyester resin and fiber by batch processing;
- (10) Nylon 66 materials produced by the polymerization reaction of hexamethylenediamine and adipic acid and associated processing to make:
 - (a) Nylon 66 resin,
 - (b) Nylon 66 fiber, and
 - (c) Nylon 66 resin and fiber;
- (11) Nylon 6 materials produced by the polymerization reaction of caprolactam and associated processing to make:
 - (a) Nylon 6 resin,
 - (b) Nylon 6 fiber, and
 - (c) Nylon 6 resin and fiber;
- (12) Cellulose acetate materials produced by processing wood pulp with acetic acid and acetic anhydride and associated processing to make:
 - (a) Cellulose acetate resin,
 - (b) Cellulose acetate fiber, and
 - (c) Cellulose acetate resin and fiber; and
- (13) Acrylic resin and fiber produced by the polymerization reaction of acrylonitrile and associated processing and the copolymerization of acrylonitrile and vinylidene chloride and/or vinyl chloride.

History: Cr. eff. 2-28-75.

NR 280.03 Definitions. Definitions of terms and meanings of abbreviations are set forth in Wis Adm, Code chapter NR 205. ✓

History: Cr. eff. 2-28-75.

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Environmental Protection

NR 280.04 Compliance with effluent limitation and standards. Discharge of pollutants from facilities subject to the provisions of this chapter shall not exceed, as appropriate:

(1) By July 1, 1977, effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available;

(2) By July 1, 1977, pretreatment standards for existing discharges to publicly-owned treatment works;

(3) By July 1, 1983, effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable;

(4) Standards of performance for new sources; or

(5) Pretreatment standards for new sources discharging to publicly-owned treatment works.

History: Cr. eff. 2-28-75.

NR 280.05 Modification of effluent limitations. (1) Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available may be modified in accordance with this section.

(2) An individual discharger or other interested person may submit evidence to the department that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the effluent limitations. On the basis of such evidence or other available information, the department will make a written determination that such factors are or are not fundamentally different for that facility compared to those specified in the Synthetic Resins Development Document, EPA 440/1-74-010-a. If such fundamentally different factors are found to exist, the department shall establish for the discharge effluent limitations in the WPDES permit either more or less stringent than the limitations in this chapter, to the extent dictated by such fundamentally different factors. Such limitations must be approved by EPA which may approve, disapprove or specify other limitations.

(3) Copies of this Development Document, "Synthetic Resins" EPA 440/1-74-010-a, published March, 1974, are available for inspection at the office of the department of natural resources, the secretary of state's office and the office of the revisor of statutes, and may be obtained for personal use from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20460.

History: Cr. eff. 2-28-75.

NR 280.06 Application of effluent limitations and standards.

(1) The effluent limitations and standards set forth in this chapter shall be used in accordance with this section to establish the quantity or quality of pollutants or pollutant properties which may be discharged by a point source subject to the provisions of this chapter, except as:

(a) They may be modified in accordance with section NR 280.05.

(b) They may be superseded by more stringent limitations and standards necessary to achieve water quality standards or meet other legal requirements, or

(c) They may be supplemented or superseded by standards or prohibitions for toxic pollutants or by additional limitations for other pollutants required to achieve water quality.

(2) The production basis for the application of the limitations and standards set forth in this chapter shall be the daily average of annual production in each subcategory subject to the provisions of this chapter.

History: Cr. eff. 2-28-75.

NR 280.10 Effluent limitations, best practicable treatment. The following effluent limitations for all or specific subcategories establish, except as provided in section NR 280.05, the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this chapter after application to process wastes of the best practicable control technology currently available.

(1) The pH of all discharges shall be within the range of 6.0 to 9.0.

(2) The 30-day average and daily maximum limitations for BOD, suspended solids, COD and other parameters are set forth in table 1 in lbs/1,000 lbs or kg/1,000 of product.

Subcategory as Defined in Section NR 280.02	BOD		COD		Susp. Solids		Other	
	Ave.	Max.	Ave.	Max.	Ave.	Max.	Ave.	Max.
(1) (a)	.36	.70	3.6	7.0	.99	1.8	—	—
(b)	.13	.26	1.3	2.6	.36	.65	—	—
(c)	.06	.12	.6	1.2	.16	.29	—	—
(2)	.20	.39	2.0	3.9	.55	1.0	—	—
(3) (a)	.22	.43	2.2	4.3	.61	1.1	.0023	.0046
(b)	.04	.08	.4	.8	.11	.20	—	—
(4)	.42	.81	2.1	4.1	1.16	2.1	—	—
(5) (a)	.20	.39	2.0	3.9	.55	1.0	—	—
(b)	.30	.58	3.0	5.8	.83	1.5	.0031	.0062
(c)	.052	.10	.52	1.0	.14	.25	—	—
(6)	8.7	17.8	87	178	16	29.1	—	—
(7)	4.8	10.0	72	150	8.8	16.0	.534	.91
(8)	.63	1.30	6.3	13.0	1.16	2.10	.0044	.0088
(9) (a)	.78	1.4	11.7	21.5	.52	.95	—	—
(b)	.78	1.4	11.7	21.5	.52	.95	—	—
(c)	.78	1.4	11.7	21.5	.52	.95	—	—
(d)	1.56	2.8	23.4	43.0	1.04	1.9	—	—
(10) (a)	.66	1.2	3.3	6.0	.44	.80	—	—
(b)	.58	1.1	3.0	5.3	.39	.70	—	—
(c)	1.24	2.3	6.2	11.3	.83	1.5	—	—
(11) (a)	3.71	6.8	37.1	68.0	2.48	4.5	—	—
(b)	1.90	3.5	19	35	1.27	2.3	—	—
(c)	5.61	10.3	56.1	103	3.75	6.8	—	—
(12) (a)	4.13	7.5	41.3	75.0	2.75	5.0	—	—
(b)	4.13	7.5	41.3	75.0	2.75	5.0	—	—
(c)	8.26	15.0	82.6	150	5.5	10.0	—	—
(13)	2.75	5.0	13.8	25	1.1	2.0	.0083	.017

Note: Other parameters identified as CR (total chromium), Zn (zinc), and P (phenolic compounds).

History: Cr. eff. 2-28-75.

NR 280.11 Effluent limitations, best available treatment. The following effluent limitations for all or specific subcategories establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this

chapter after application to process wastes of the best available technology economically achievable.

(1) The pH of all discharges shall be within the range of 6.0 to 9.0.

(2) The 30-day average and daily maximum limitations for BOD₅, suspended solids, COD and other parameters are set forth in table 2 lbs/1,000 lbs or kg/1,000 kg of product.

Subcategory as Defined in Section NR 280.02	BOD		COD		Susp. Solids		Ave.	Other Max.	
	Ave.	Max.	Ave.	Max.	Ave.	Max.			
(1) (a)	.28	.41	1.28	1.92	.19	.23	—	—	
(b)	.13	.20	.61	.92	.092	.11	—	—	
(c)	.06	.09	.28	.42	.042	.05	—	—	
(2)	.19	.29	.89	1.33	.14	.16	—	—	
(3) (a)	.22	.33	1.03	1.55	.16	.18	.0023	.0046	Cr
(b)	.04	.06	.19	.29	.028	.033	—	—	
(4)	.32	.48	2.14	3.21	.23	.27	—	—	
(5) (a)	.19	.29	1.65	2.48	.14	.16	—	—	
(b)	.30	.45	1.60	2.40	.21	.25	.0031	.0062	Cr
(c)	.052	.078	.28	.42	.037	.043	—	—	
(6)	5.1	7.9	43.9	68.3	3.19	3.75	—	—	
(7)	2.8	4.4	24.4	37.9	1.77	2.08	.105	.210	Zn
(8)	.45	.70	3.3	5.1	.28	.33	.0042	.0084	Cr
(9) (a)	.44	.59	2.3	3.1	.13	.16	—	—	
(b)	.44	.59	2.3	3.1	.13	.16	—	—	
(c)	.34	.47	1.8	2.4	.11	.13	—	—	
(d)	.87	1.2	4.5	6.2	.27	.32	—	—	
(10) (a)	.37	.50	1.9	2.6	.11	.13	—	—	
(b)	.32	.44	1.7	2.3	.10	.12	—	—	
(c)	.69	.94	3.6	4.9	.21	.25	—	—	
(11) (a)	1.8	2.45	9.3	12.7	.55	.65	—	—	
(b)	.92	1.25	4.8	6.5	.28	.33	—	—	
(c)	2.7	3.7	14.1	19.2	.84	.98	—	—	
(12) (a)	1.7	2.35	8.9	12.2	.53	.63	—	—	
(b)	1.7	2.35	8.9	12.2	.53	.63	—	—	
(c)	3.4	4.7	17.8	24.4	1.06	1.26	—	—	
(13)	.89	1.2	4.7	6.3	.27	.33	.0016	.0032	P

Note: Other parameters identified as Cr (total chromium), Zn (zinc) and P (phenolic compounds).

History: Cr. eff. 2-28-75.

NR 280.12 Standards of performance. The following effluent limitations for all or specific subcategories when applied in accordance with section NR 280.06 establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility which is a new source subject to the provisions of this chapter.

(1) The pH of all discharge shall be within the range of 6.0 to 9.0.

(2) The 30-day average and daily maximum limitations for BOD₅, suspended solids, COD and other parameters are set forth in table 3 in lbs/1,000 lbs or kg/1,000 kg of product.

Table 3
STANDARDS OF PERFORMANCE EFFLUENT
LIMITATIONS

Subcategory as Defined in Section NR 280.02	BOD		COD		Susp. Solids		Other	
	Ave.	Max.	Ave.	Max.	Ave.	Max.	Ave.	Max.
(1) (a)	.19	.37	.89	1.70	.13	.19	—	—
(b)	.13	.26	.61	1.20	.092	.14	—	—
(c)	.06	.12	.28	.54	.042	.06	—	—
(2)	.18	.35	.84	1.6	.13	.19	—	—
(3) (a)	.22	.43	1.03	2.0	.16	.24	.0023	.0046
(b)	.04	.08	.19	.37	.028	.04	—	—
(4)	.22	.43	1.47	2.9	.16	.24	—	—
(5) (a)	.18	.35	1.8	3.5	.13	.19	—	—
(b)	.3	.58	1.6	3.1	.21	.31	.0031	.0062
(c)	.054	.10	.28	.54	.036	.05	—	—
(6)	3.6	7.41	48	98	2.27	3.3	—	—
(7)	2.0	4.17	47	97	1.28	.19	.075	.15
(8)	.43	.88	3.1	6.5	.27	.40	.0040	.0080
(9) (a)	.44	.79	4.0	7.3	.13	.19	—	—
(b)	.44	.79	4.0	7.3	.13	.19	—	—
(c)	.25	.46	2.32	4.2	.078	.12	—	—
(d)	.87	1.58	8.0	14.6	.27	.40	—	—
(10) (a)	.37	.67	2.6	4.8	.11	.16	—	—
(b)	.32	.58	2.3	4.2	.10	.15	—	—
(c)	.69	1.25	4.95	9.0	.21	.31	—	—
(11) (a)	1.51	2.75	15.7	28.6	.47	.69	—	—
(b)	.78	1.42	8.1	14.7	.24	.35	—	—
(c)	2.29	4.17	23.9	43.4	.71	1.10	—	—
(12) (a)	1.15	2.08	11	20	.35	.51	—	—
(b)	1.15	2.08	11	20	.35	.51	—	—
(c)	2.29	4.17	22	40	.71	1.1	—	—
(13)	.87	1.58	16.7	30.4	.27	.4	.0016	.0032

Note: Other parameters identified as Cr (total chromium), Zn (zinc) and P (phenolic compounds).

History: Cr. eff. 2-28-75.

NR 280.13 Pretreatment standards for new sources. The pretreatment standards for discharges to publicly owned treatment works from new sources subject to the provisions of this chapter shall be as set forth in Wis. Adm. Code chapter NR 211. In addition, for subcategories (3) (a), (5) (a), (7), (8) and (13) the limitations for incompatible pollutants shall be those set forth in section NR 280.12, except as provided in Wis. Adm. Code section NR 211.30(2). Wastewaters from such new sources may not be discharged to publicly owned treatment works except in compliance with such limitations for total chromium, zinc, or phenolic compounds.

History: Cr. eff. 2-28-75.