

## Chapter NR 286

### RUBBER PROCESSING

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**NR 286.01 Purpose.** The purpose of this chapter is to establish limitations, standards of performance, and pretreatment standards for discharges of process wastes from the rubber processing category of point sources and subcategories thereof.

**Note:** The authority for promulgation of this chapter is set forth in ch. NR 205.  
**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 286.02 Applicability. (1)** The effluent limitations, standards of performance, pretreatment standards, and other provision in this chapter are applicable to pollutants or pollutant properties in discharges of process waste resulting from manufacture in any of the following product subcategories.

- (a) Pneumatic tires and inner tubes
- (b) Emulsion crumb rubber
- (c) Solution crumb rubber
- (d) Latex rubber.
- (e) Small-sized rubber products manufacturing plants.
- (f) Medium-sized rubber products manufacturing plants.
- (g) Large-sized rubber products manufacturing plants.
- (h) Wet digestion process reclaimed rubber.
- (i) Pan, dry digestion, and mechanically reclaimed rubber.
- (j) Latex-dipped, latex-extruded, and latex-molded rubber products.
- (k) Latex foam.

**(2)** Discharges resulting from the production of latex based products, tires (except retreaded tires) and inner tubes, and textiles subject to the provisions of ch. NR 296 are specifically excluded from subcategories (e), (f), and (g) of sub. (1).

**(3)** Discharges resulting from textile facilities subject to the provisions of ch. NR 296 are specifically excluded from subcategories (j) and (k) of sub. (1).

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 286.03 Definitions.** The following definitions are applicable to terms used in this chapter. Definitions of other terms and meanings of abbreviations are set forth in ch. NR 205.

- (1)** "Chromium" or "Cr" means total chromium
- (2)** "Large-sized" means manufacturing plants which process more than 23,000 lbs or 10,430 kg per day of raw materials.
- (3)** "Medium-sized" means manufacturing plants which process between 8,200 and 23,000 lbs or 3,720 and 10,430 kg per day of raw materials.
- (4)** "Process waste" means for facilities in the pneumatic tire and inner tube subcategory which were constructed before 1959 discharges of water from soapstone solution application, steam cleaning operations, air pollution control equipment, unroofed process oil unloading areas, mold cleaning operations, latex applications, and air compressor receivers, excluding tread cooling and discharges from other areas of such facilities. Otherwise in this chapter "process waste" means process wastewater as defined in s. NR 205.03 (21).

**(5)** "Pan, dry digestion, and mechanically reclaimed rubber" means rubber reclaimed by other than the wet digestion process.

**(6)** "Raw material" means, as appropriate,  
(a) All natural and synthetic rubber, carbon black, oils, chemical compounds and fabric used in rubber products manufacturing.

(b) Wire in addition to the materials listed in par. (a) used in the manufacture of tires and inner tubes, or

(c) All latex solids used in the manufacture of latex foam or latex-dipped, latex-extruded, or latex-molded products.

**(7)** "Raw material equivalent" means the amount of raw material equal to the daily raw material usage multiplied by the daily volume of wet scrubbed air and divided by the daily volume of all scrubbed air.

**(8)** "Rubber products manufacturing" means the production of molded, extruded, and fabricated rubber products, foam rubber backing, rubber cement-dipped goods, and retreaded tires.

**(9)** "Small-sized" means manufacturing plants which process less than 8,200 lbs or 3,720 kg per day of raw materials.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 286.04 Compliance with effluent limitations and standards.** Discharge of pollutants from facilities subject to the provisions of this chapter may 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, 1983 effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable;

**(3)** Pretreatment standards for discharges to publicly owned treatment works;

**(4)** Standards of performance for new sources.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76; r. and recr. Register, August, 1983, No. 332, eff. 9-1-83.

**NR 286.05 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, to 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 either the Tires and Synthetic or Fabricated and Reclaimed Rubber Development Documents, EPA 440/1-74-013-a (Feb. 1974) or EPA 440/1-75-030-a (Jan. 1975) respectively. 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. Copies of these Development Documents are available for inspection at the office of the department of natural resources, the secretary of state's office, and the office of the legislative reference bureau, and may be obtained for personal use from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20460

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76; **correction made in (4) under s. 13. 92 (4) (b) 6.**

**NR 286.06 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 s. NR 286.05,
- (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 application of the limitations and standards set forth in this chapter shall be the daily average of a maximum month in each subcategory subject to the provisions of this chapter.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 286.09 Effluent limitations, non-process wastewater.** The following effluent limitations are applicable to discharges of non-process wastewater, including tread cooling water, from facilities in the pneumatic tire and inner tube subcategory which were constructed before 1959. Such facilities shall in order to minimize discharge of oil and grease in such wastewaters:

(1) No later than July 1, 1977 employ the best practicable maintenance and housekeeping practices;

(2) No later than July 1, 1983 employ the best available maintenance and housekeeping practices; and

(3) Limit the oil and grease content of such wastewaters to daily average and daily maximum concentrations of 5 and 10 mg/l respectively.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 286.10 Effluent limitations, best practicable treatment.** The following effluent limitations for all or specific subcategories establish, except as provided in s. NR 286.05, 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<sub>5</sub>, suspended solids, and other parameters are set forth in table 1.

(3) The limitations of table 1 are in lbs/1000 lbs or kg/1000 of raw material, for subcategories (e), (f), (g), (j) and (k) and of product for the other subcategories of s. NR 286.02.

(4) The limitations for lead in table 1 apply only to discharges attributable to the manufacture of lead sheathed hose.

(5) The limitations for chromium in table 1 apply only to facilities using a chromic acid form cleaning operation.

(6) For facilities in subcategory (e), (f), or (g) having wet scrubbing operation the 30 day average and daily maximum discharge limitations for suspended solids shall be increased above those calculated from table 1 by respectively 2.9 and 5.8 lbs/1000 lbs or kg/1000 kg of raw material equivalent.

Table 1  
BPT Limitations

Subcategory	Sus. Solids		Oil & Grease		BOD <sub>5</sub>		Other Parameters	
	ave.	max.	ave.	max.	ave.	max.	ave.	max.
(a)	.064	.096	.016	.024				
(b)	.65	.98	.16	.24	.40	.60	8.0	12.0 COD
(c)	.65	.98	.16	.24	.40	.60	3.94	5.91 COD
(d)	.55	.82	.14	.21	.34	.54	6.85	10.27 COD
(e)	.64	1.28	.25	.70			.0007	.0017 lead
(f)	.40	.80	.15	.42			.0007	.0017 lead
(g)	.25	.50	.093	.26			.0007	.0017 lead
(h)	.52	1.04	.144	.40			6.11	14.7 COD
(i)	.192	.384	.144	.40			2.8*	6.7* COD
(j)	2.90	6.96	.73	2.0	2.20	3.72	.0036	.0086 Cr
(k)	.94	2.26			1.4	2.4	.024	.058 Zinc

Subcategories are as set forth in s. NR 286.02

\*These limitations are applicable only to facilities in which dry digestion processes are integrated with wet digestion processes for reclaiming rubber.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 286.11 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 BOD<sub>5</sub>, suspended solids, and other parameters are set forth in table 2.

(3) The limitations of table 2 are in lbs/1000 lbs or kg/1000 kg

of raw material for subcategories (e), (f), (g), (j) and (k) and of product for the other subcategories of s. NR 286.02.

(4) The limitations for lead in table 2 apply only to discharges attributable to the manufacture of lead sheathed hose.

(5) The limitations for chromium in table 2 apply only to facilities using a chromic acid form cleaning operation.

(6) For facilities in subcategory (e), (f), or (g) having wet scrubbing operations the 30 day average and daily maximum discharge limitations for suspended solids shall be increased above those calculated from table 2 by respectively 0.5 and 1.0 lbs/1000 lbs or kg/1000 kg of raw material equivalent.

Table 2  
BAT Effluent Limitations

Subcategory	Sus. Solids		Oil & Grease		BOD <sub>5</sub>		Other Parameters	
	ave.	max.	ave.	max.	ave.	max.	ave.	max.
(a)	.064	.096	.016	.024				
(b)	.16	.24	.08	.12	.08	.12	2.08	3.12 COD
(c)	.16	.24	.08	.12	.08	.12	2.08	3.12 COD
(d)	.07	.11	.14	.21	.07	.11	1.78	2.66 COD
(e)	.64	1.28	.25	.70			.0007	.0017 lead
(f)	.40	.80	.15	.42			.0007	.0017 lead
(g)	.25	.50	.093	.26			.0007	.0017 lead
(h)	.52	1.04	.144	.40			6.11	14.7 COD
(i)	.192	.384	.144	.40			2.8*	6.7* COD
(j)	2.90	6.96	.73	2.00	2.20	3.72	.0036	.0086 Cr
(k)	.94	2.26			1.4	2.4	.024	.058 Zinc

Subcategories are set forth in s. NR 286.02.

\*These limitations are applicable only to facilities in which dry digestion processes are integrated with wet digestion processes for reclaiming rubber.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 286.12 Standards of performance.** 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 which is a new source subject to the provisions of this chapter.

(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<sub>5</sub>, suspended solids, and other parameters are set forth in table 1.

(3) The limitations of table 1 are in lbs/1000 lbs or kg/1000 kg

or raw material for subcategories (e), (f), (g), (j) and (k) and of product for the other subcategories of s. NR 286.02.

(4) The limitations for lead in table 1 apply only to discharges attributable to the manufacture of lead sheathed hose.

(5) The limitations for chromium in table 1 apply only to facilities using a chromic acid form cleaning operation.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76.

**NR 286.13 Pretreatment standards.** The pretreatment standards for discharges to publicly owned treatment works from sources subject to the provisions of this chapter shall be as set forth in ch. NR 211.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76; r. and recr. Register, August, 1983, No. 332, eff. 9-1-83.