

## Chapter NR 296

### TEXTILE INDUSTRY

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**NR 296.01 Purpose.** The purpose of this chapter is to establish effluent limitations, standards of performance, and pretreatment standards for discharges of process wastes from the textile manufacturing 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 296.02 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 manufacture in any of the following subcategories.

**c1d WOOL SCOURING.** This subcategory includes textile mills engaged in wool scouring, topmaking, and general cleaning of raw wool.

**c2d WOOL FINISHING.** This subcategory includes textile mills engaged in wool finishing including carbonizing, fulling, dyeing, bleaching, and rinsing, fireproofing and other such similar processes.

**c3d DRY PROCESSING.** This subcategory includes textile mills engaged in yarn manufacture, yarn texturizing, unfinished fabric manufacture, fabric coating, fabric laminating, tire cord and fabric dipping, carpet tufting and carpet backing. The manufacture of rubberized or rubber coated fabrics is specifically excluded from the provisions of this chapter.

**c4d WOVEN FABRIC FINISHING.** This subcategory includes textile mills engaged in any or all of the following unit operations: desizing, bleaching, mercerizing, dyeing, printing, resin treatment, waterproofing, flameproofing, soil repellancy application, and special finish application. The subcategory is further divided into the finishing of woven fabrics through:

cad Simple or complex manufacturing operations employing a natural fiber, a synthetic fiber, or a natural and synthetic fiber blend,

cbd Simple manufacturing operations employing a synthetic fiber or complex manufacturing operations employing a natural fiber,

ccd Simple manufacturing operations employing a natural and synthetic fiber blend or complex manufacturing operations employing a synthetic fiber, and

cdd Complex manufacturing operation employing a natural and synthetic fiber blend.

**c5d KNIT FABRIC FINISHING.** This subcategory includes textile mills engaged in knit fabric finishing employing any or all of the following unit operations: bleaching, mercerizing, dyeing, printing, resin treatment, waterproofing, flameproofing, soil repellancy application and application of special finishes. The subcategory is further divided into the finishing of knit fabrics through:

cad Simple or complex manufacturing operations employing a synthetic fiber or a natural and synthetic fiber blend,

cbd Simple manufacturing operations employing a natural and synthetic fiber blend or complex manufacturing operations employing a synthetic fiber, and

ccd Complex manufacturing operations employing a natural and synthetic fiber blend.

**c6d CARPET MILLS.** This subcategory includes textile mills which are carpet mills engaged in any or all of the following unit operations: bleaching, scouring, carbonizing, fulling, dyeing, printing, resin treatment, waterproofing, flameproofing, soil repellancy, looping, and backing with foamed and unfoamed latex and jute. Carpet backing without other carpet manufacturing operations is excluded from this subcategory and included in subcategory c3d.

**c7d STOCK AND YARN DYEING AND FINISHING.** This subcategory includes textile mills engaged in stock and yarn dyeing and finishing using any or all of the following unit operations: cleaning, scouring, bleaching, mercerizing, dyeing and special finishing.

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

**NR 296.03 Definitions.** The following special definitions are applicable to terms used in this chapter. Definitions of other terms and meanings of abbreviations are set forth in ch. NR 205.

**c1d XColorY** means the color as measured by the modified tri-stimulus method developed by the American Dye Manufacturers Institute cADMId and described in Appendix A of the development document incorporated by reference in s. NR 296.05.

**Note:** Section NR 296.05 was repealed effective 5-1-18 by CR 17-002.

**c2d XCommission scouringY** means the scouring of wool, 50% or more of which is owned by others, in mills that are 51% or more independent ci.e. having only a minority ownership by companies with grieger or integrated operationsd. The mills must process 20% or more of their commissioned production through batch, noncontinuous processing operations.

**c3d XCommission finishingY** means the finishing of textile materials, 50% or more of which are owned by others, in mills that are 51% or more independent ci.e. having only a minority ownership by companies with grieger or integrated operationsd. The mills must process 20% or more of their commissioned production through batch, noncontinuous processing operations with 50% or more of their commissioned orders processed in 5,000-yard or smaller lots.

**c4d XFiberY** means dry wool and other fibers as received at the wool mill for processing into wool and blended products.

**c5d XProductY** means the final material produced or processed by the mill except that for the carpet mills subcategory it

means the final carpet produced or processed including the primary backing but excluding the secondary backing.

**c6d** XSimple manufacturing operationY means those operations involving the unit processes of desizing, fiber preparation and dyeing except that for the carpet mills subcategory it means those operations involving fiber preparation and dyeing with or without carpet backing.

**c7d** XComplex manufacturing operationY means those operations involved in simple manufacturing operation plus any additional manufacturing operations such as printing, waterproofing or applying stain resistant or other functional fabric finishes except that for the carpet mills subcategory the additional operations are those such as printing or dyeing and printing.

**c8d** XWoolY means dry wool as it is received by the wool scouring mill.

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

**NR 296.04 Compliance with effluent limitations and standards.** Discharge of pollutants from facilities subject to the provisions of this chapter may not exceed, as appropriate:

**c1d** By July 1, 1977 effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available;

**c2d** By July 1, 1983 effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable;

**c3d** Pretreatment standards for discharges to publicly owned treatment works;

**c4d** Standards of performance for new sources.

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

**NR 296.06 Application of effluent limitations and standards.** **c1d** 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:

cad They may be modified in accordance with subch. IV of ch. NR 220,

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

ccd 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.

**c2d** The production basis for application of the limitations and standards set forth in this chapter shall be the daily average for a maximum month for the facility in each subcategory subject to the provisions of this chapter.

**c3d** In the application of effluent limitations in this chapter to a textile mill engaged in commission scouring in subcategory c1d or in commission finishing in subcategory c2d, c4d or c5d of s. NR 296.02, where the commission scouring or commission finishing conforms to the definitions of s. NR 296.03, the appropriate effluent limitations of ss. NR 296.10, 296.11 and 296.12 shall be increased, except for pH, by an amount equal to such limitations in those sections.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76; correction in c1d cad made under s. 13.92 c4d cbd 7, Stats., Register April 2018 No. 748.

**NR 296.10 Effluent limitations, best practicable treatment.** The following effluent limitations for all or specific subcategories when applied in accordance with s. NR 296.06 c3d establish, except as provided in subch. IV of ch. NR 220, 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.

**c1d** The pH of all discharges shall be within the range of 6.0 to 9.0.

**c2d** The fecal coliform present in discharges in subcategory c3d shall not exceed an MPN of 400{100 ml.

**c3d** The oil and grease content of discharges in subcategory c1d shall not exceed a 30-day average of 3.6 nor a daily maximum of 7.2 lbs{1,000 lbs or kg{1,000 kg of wool.

**c4d** The 30-day average limitations for BOD<sub>5</sub>, suspended solids, COD, total chromium, phenol and sulfide are set forth in table 1. Daily maximum limitations are 2 times the 30-day average values.

**Table 1**  
**BPT Effluent Limitations**  
**in lbs{1,000 lbs or kg{1,000 kg of product**

Subcategory as defined in s. NR 296.02

	BOD	TSS	COD	Chromium Total	Phenol	Sulfide
c1d	5.3	16.1	69.0	.05	.05	.10
c2d	11.2	17.6	81.5	.07	.07	.14
c3d	.7	.7	1.4	-	-	-
c4d cad	3.3	8.9	30.0	.05	.05	.10
cbd	3.3	8.9	40.0	.05	.05	.10
ccd	3.3	8.9	50.0	.05	.05	.10
cdd	3.3	8.9	60.0	.05	.05	.10
c5d cad	2.5	10.9	30.0	.05	.05	.10
cbd	2.5	10.9	40.0	.05	.05	.10
ccd	2.5	10.9	50.0	.05	.05	.10
c6d cad	3.9	5.5	35.1	.02	.02	.04
cbd	3.9	5.5	45.1	.02	.02	.04
c7d	3.4	8.7	42.3	.06	.06	.12

**Note:** For XproductY substitute XwoolY and XfiberY respectively for subcategories c1d and c2d.

**History:** Cr. Register, June, 1976, No. 246, eff. 7-1-76; correction in cintro.d made under s. 13.92 c4d cbd 7, Stats., Register April 2018 No. 748.

**NR 296.11 Effluent limitations, best available treatment.** The following effluent limitations for all or specific subcategories when applied in accordance with s. NR 296.06 c3d 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.

**c1d** The pH of all discharges shall be within the range of 6.0 to 9.0.

**c2d** The fecal coliform present in all discharges shall not exceed an MPN of 400{100 ml.

**c3d** The oil and grease content of discharges in subcategory c1d shall not exceed a 30-day average of 1.0 nor a daily maximum of 2.0 lbs{1,000 lbs or kg{1,000 kg of wool.

**c4d** The 30-day average limitations for BOD<sub>5</sub>, suspended solids, COD, total chromium, phenol, sulfide and color are set forth in Table 2. Daily maximum limitations are 2 times the 30-day average values.

**Table 2**  
**BAT Effluent Limitations**  
lb{1,000 lbs of kg{1,000 kg of product;

Subcategory as defined in s. NR 296.02	BOD	TSS	COD	Chromium			Color ADMI
				Total	Phenol	Sulfide	
c1d	2.4	2.0	18.0	.05	.05	.10	600
c2d	4.6	2.5	27.1	.07	.07	.14	600
c3d	.2	.2	.4	-	-	-	-
c4d cad	2.2	1.5	10.0	.05	.05	.10	300
cbd	2.2	1.5	13.3	.05	.05	.10	300
ccd	2.2	1.5	16.7	.05	.05	.10	300
cdd	2.2	1.5	20.0	.05	.05	.10	300
c5d cad	1.7	1.7	10.0	.05	.05	.10	300
cbd	1.7	1.7	13.3	.05	.05	.10	300
ccd	1.7	1.7	16.7	.05	.05	.10	300
c6d cad	2.0	1.0	11.7	.02	.02	.04	225
cbd	2.0	1.0	15.0	.02	.02	.04	225
c7d	2.3	1.9	14.1	.06	.06	.12	300

**Note:** For XproductY substitute XwoolY and XfiberY respectively for subcategories c1d and c2d.

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

**NR 296.12 Standards of performance.** The following effluent limitations for all or specific subcategories when applied in accordance with s. NR 296.06 c3d 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.

**c1d** The pH of all discharges shall be within the range of 6.0 to 9.0.

**c2d** The fecal coliform present in discharges in subcategory c3d shall not exceed an MPN of 400{100 ml.

**c3d** The oil and grease content of discharges in subcategory c1d shall not exceed a 30-day average of 3.6 nor a daily maximum of 7.2 lbs{1,000 lbs or kg{1,000 kg of wool.

**c4d** The 30-day average limitations for BOD<sub>5</sub>, suspended solids, COD, total chromium, phenol, sulfide and color are set forth in table 3. Daily maximum limitations are 2 times the 30-day average values.

**Table 3**  
**Standards of Performance Effluent Limitations**  
in lbs{1,000 lbs or kg{1,000 kg of product;

Subcategory as defined in s. NR 296.02	BOD	TSS	COD	Chromium		
				Total	Phenol	Sulfide
c1d	5.3	5.3	69.0	.05	.05	.10
c2d	11.2	11.2	81.5	.07	.07	.14
c3d	0.7	0.7	1.4	-	-	-
c4d cad	3.3	3.3	30.0	.05	.05	.10
cbd	3.3	3.3	40.0	.05	.05	.10
ccd	3.3	3.3	50.0	.05	.05	.10
cdd	3.3	3.3	60.0	.05	.05	.10
c5d cad	2.5	2.5	30.0	.05	.05	.10
cbd	2.5	2.5	40.0	.05	.05	.10
ccd	2.5	2.5	50.0	.05	.05	.10
c6d cad	3.9	3.9	35.1	.02	.02	.04
cbd	3.9	3.9	45.1	.02	.02	.04
c7d	3.4	3.4	42.3	.06	.06	.12

**Note:** For XproductY substitute XwoolY and XfiberY respectively for subcategories c1d and c2d.

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

**NR 296.13 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.