

## Chapter NR 230

**INTERIM EFFLUENT LIMITATIONS FOR THE  
INORGANIC CHEMICALS INDUSTRY  
WISCONSIN POLLUTANT DISCHARGE  
ELIMINATION SYSTEM**

NR 230.01	Purpose	NR 230.04	Characteristics of effluents and abatement models
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**Note:** Pursuant to Chapter 74, Laws of 1973, in sections 147.04 (3) and (5) and under the procedure of section 227.027, Wis. Stats., the department of natural resources has promulgated interim effluent limitations which become effective February 1, 1974 and will remain in effect for a period of one year. These interim effluent limitations will be periodically replaced by permanent effluent limitations.

**NR 230.01 Purpose.** The purpose of this chapter is to establish interim effluent limitations for discharges from industrial point sources identified herein as authorized by section 147.04 (5), Wis. Stats.

**History:** Emerg. cr. eff. 2-1-74.

**NR 230.02 Applicability.** These interim limitations apply only to Standard Industrial Classification Codes 2812, 2816 and 2819.

(1) **SUBCATEGORIES INCLUDED.** The following subcategories are included: aluminum chloride, aluminum sulfate, chlorine-sodium hydroxide, hydrochloric acid, hydrofluoric acid, hydrogen peroxide, lime, nitric acid, elemental phosphorus, and sulfuric acid.

(2) **OPERATION EXCLUDED.** For inorganic compounds such as anhydrous ammonia, superphosphates, and urea, the limitations are included in those for the fertilizer industry in NR 234, Wis. Adm. Code.

(3) **OTHER LIMITATIONS.** Other interim effluent limitations in chapter NR 217, Wis. Adm. Code, are applicable to discharges from facilities which belong in the classifications of this section but are excluded from, or not specifically included in, its provisions.

**History:** Emerg. cr. eff. 2-1-74.

**NR 230.03 Application of interim limitations.** (1) The use of these interim limitations is limited to single product plants for the 10 categories covered in NR 230.05.

(2) The effluent limitations are based on process wastewater and do not include non-contact cooling water, cooling tower blowdown or boiler blowdown.

(3) The mercury effluent limitation of 0.15 pounds per day for the entire chlor-alkali operation is to be measured at the outlet from the

mercury treatment unit. Should there be another process at the location that has an effluent containing mercury, that stream must be treated in the mercury treatment unit and thus be included in the 0.15 pound per day limitation day. Mercury residuals (i.e., mercury picked up between the treatment unit outlet and the discharge to the stream) may be a problem and a program with schedules for reduction of the residual may be necessary.

**History:** Emerg. cr. eff. 2-1-74.

**NR 230.04 Characteristics of effluents and abatement models.** The industries in these categories manufacture products from raw materials that are inorganic in nature, thereby resulting in wastewater containing a low biochemical oxygen demand, inert solids, large amounts of dissolved solids, and effluents with a wide range of pH values. The major pollutant common to nearly all of the industry is inorganic suspended solids, a parameter that can be controlled with sedimentation basins designed for minimal short circuiting and sufficient detention time. Treatment models representing best practicable treatment for each category are:

- (1) Aluminum Chloride—sedimentation and coagulation.
- (2) Aluminum Sulfate—sedimentation and recycling of clarified effluent.
- (3) Caustic-Chlorine—sedimentation, chemical precipitation-coagulation-sedimentation, filtration, carbon adsorption, neutralization, water recycling, and water conservation practices.
- (4) Hydrochloric Acid—segregation of cooling water, collection of spills and leaks for recycle or land disposal.
- (5) Hydrofluoric Acid—lime precipitation, coagulation flocculation, sedimentation and neutralization.
- (6) Hydrogen peroxide—(organic method)—biological oxidation of organic solvents, sedimentation.
- (7) Lime—dry collection of dust.
- (8) Nitric Acid—segregation of cooling water, collection of spills and leaks for recycle or land disposal.
- (9) Phosphorus—sedimentation and recycle.
- (10) Sulfuric Acid—segregation of cooling water, collection of spills and leaks for recycle or land disposal.

**History:** Emerg. cr. eff. 2-1-74.

**NR 230.05 Table of interim effluent limitations (In Pounds per Ton as Noted).**

Product	Flow Basis <sup>5</sup> Gal/Ton	Total Suspended Solids	Other Parameters By Footnote
(1) Aluminum Chloride.....		0.015	
(2) Aluminum Sulfate.....	120	No Effluent	
(3) Caustic Chlorine <sup>6</sup>			
Diaphragm Cell.....	8,000	1.0	1
Mercury Cell.....	5,000	0.6	2
Downs Cell.....	7,300	0.9	
(4) Hydrochloric Acid.....		No Effluent	
(Chlorine burning)			
(5) Hydrofluoric Acid.....	4,672	0.6	3
(6) Hydrogen Peroxide.....	8,600	1.1	4
(Organic process)			
(7) Lime/Calcination.....		No Effluent	
(8) Nitric Acid.....		No Effluent	
(9) Phosphorus.....		No Effluent	
(10) Sulfuric Acid.....		No Effluent	
(Sulfur burning contact plants)			

pH range is 6-9 for all products.

**NOTES:**

- <sup>1</sup>0.04 lb/ton lead.
- <sup>2</sup>0.15 lb/day mercury for each facility in accordance with section 144.423, Wisconsin Statutes.
- <sup>3</sup>0.2 lb/ton fluorides.
- <sup>4</sup>0.06 lb/ton TOC.
- <sup>5</sup>The flow basis numbers show how limitations were derived and are not flow limitations.
- <sup>6</sup>Production basis is tons of chlorine.

**History: Emerg. cr. eff. 2-1-74.**