Chapter NR 240

INTERIM EFFLUENT LIMITATIONS FOR THE DAIRY PRODUCTS INDUSTRY WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

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 240.01 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 240.02 Applicability. The limitations apply to Standard Industrial Classification Codes 202 and 5043 and the following subcategories; receiving stations, fluid milk processing, butter, natural cheese, ice cream, condensed milk, dry milk, whey condensing, whey drying, and cottage cheese.

History: Emerg. cr. eff. 2–1–74.

NR 240.03 Production basis. The production basis used in calculating allowable daily discharges is the maximum amount of raw material received, in 1000 pounds of milk equivalent, for the highest production sustained for seven consecutive operating days of normal production. Milk equivalent is to be determined in accordance with NR 240.05.

History: Emerg. cr. eff. 2–1–74.

NR 240.04 Application of interim limitations. These limitations should be applied only to very large operations.

(1) Except for cottage cheese manufacturing, there is little statistical difference between unit wastewater flows from single product plants and multi-produce plants. The unit loads for each product are additive and proportional to the milk equivalent used in each process. However, the level for receiving stations applies only to receiving stations and is not additive to product plants.

History: Emerg. cr. eff. 2–1–74.

NR 240.05 Determination of milk equivalent. (1) Milk equivalent is the quantity (in pounds) of milk used to produce one pound of

product. Milk is considered to include skim milk, whole milk, and other milk with a butterfat content of less than 3.5%. If the facility receives milk with more than 3.5% butterfat or cream as a raw material, an adjustment according to the butterfat ratio should be made.

(a) If the raw material is cream this ratio would be 48/3.5; and 1000 pounds of cream would have a milk equivalent of 13,700 pounds.

(b) If the raw material received is whey, the milk equivalent should be considered as the BOD ratio of whey to that of whole milk (0.4) and 1000 pounds of whey has a milk equivalent of 400 pounds.

(2) If the pounds of final product are available but no raw material data are known, the following table can be used to convert the final product to its milk equivalent.

Product	*lb. Milk Equivalent/lb Product*
Butter	21.3
Natural Cheese	9.9
Cottage Cheese	6.3
Ice Cream	2.7
Condensed Milk	2.4
Dry Whole Milk	7.4
Dry Skim Milk	11.0

History: Emerg. cr. eff. 2–1–74.

NR 240.06 Description of abatement model. (1) The following generalized production process controls and treatment systems were used as a model in developing the effluent limitations for the dairy products industry:

(a) Good management in controlling available product and raw material losses,

(b) Recovery of whey and by-products,

(c) Biological oxidation using trickling filter or various modifications of activated sludge,

(d) Secondary clarification, and

(e) Disinfection, if necessary.

History: Emerg. cr. eff. 2–1–74.

NR 240.47 Table of interim effluent limitations (In lb/1000 lbs of milk Equivalent[2, 3]

Subcategory[4]	BOD_5	*Suspended Solids*
(1) Receiving Stations	0.032	0.032
(2) Fluid Milk Processing	0.03	0.03
(3) Butter	0.03	0.03
(4) Natural Cheeses	0.03	0.03
(5) Ice Cream[1]	0.03	0.03
(6) Condensed Milk	0.03	0.03
(7) Dry Milk	0.03	0.03
(8) Whey Condensing	0.03	0.03
(9) Whey Drying	0.03	0.03
(10) Cottage Cheese	0.13	0.13

NOTES:

[1] Novelty items (e.g., stick confections, popsicles) shall be considered on a case-by-case basis.

[2] Settleable solids shall not exceed 0.1 milliliter per liter.

[3] In some instances limitations may be necessary for ammonia, nitrogen or phosphorus.

[4] Subcategories except receiving stations are unit processes and in an integrated plant limitations are additive.

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