

## Chapter NR 233

## PESTICIDE CHEMICALS

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**Subchapter I – General Provisions**

**NR 233.01 Purpose.** The purpose of this chapter is to establish effluent limitations, performance standards and pretreatment standards for discharges of process wastes from the pesticide chemicals point source category and its subcategories.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.02 Applicability.** This chapter applies to any pesticide chemicals facility that discharges or may discharge a pollutant to waters of the state or that introduces or may introduce pollutants into a publicly owned treatment works.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.03 General definitions.** In addition to the definitions in ss. NR 205.03, 205.04 and 211.03, the following definitions apply to the terms used in this chapter:

(1) "Active ingredient" means an ingredient of a pesticide which is intended to prevent, destroy, repel or mitigate any pest.

(2) "Existing source" means any point source, except a new source as defined in sub. (3), from which pollutants are or may be discharged either to waters of the state or into a publicly owned treatment works.

(3) "New source" means any point source for which the commencement of construction occurred after April 10, 1992, and from which pollutants are or may be discharged either to waters of the state or into a publicly owned treatment works.

(4) "Pest" means:

(a) Any insect, rodent, nematode, fungus or weed.

(b) Any other form of terrestrial or aquatic plant or animal life.

(c) Any virus, bacteria or other micro-organism, except viruses, bacteria or other micro-organisms on or in living man or other living animals, which the administrator declares to be a pest under the Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. s. 136 et seq.

(5) "Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest.

(6) "Pesticide chemicals" means the sum of all active ingredients manufactured at each facility covered by this chapter.

(7) "Priority pollutants" means the toxic pollutants listed in s. NR 215.03.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.04 Compliance dates.** (1) Any existing source subject to this chapter which discharges to waters of the state shall achieve:

(a) The effluent limitations representing BPT by July 1, 1977; and

(b) The effluent limitations representing BAT by July 1, 1984.

(2) Any new source subject to this chapter which discharges to waters of the state shall achieve NSPS at the commencement of discharge.

(3) Any existing source subject to this chapter which introduces process wastewater pollutants into a POTW shall achieve PSES by September 28, 1996.

(4) Any new source subject to this chapter which introduces process wastewater pollutants into a POTW shall achieve PSNS at the commencement of discharge.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**Subchapter II – Organic Pesticide Chemicals Manufacturing Subcategory**

**NR 233.10 Applicability; description of the organic pesticide chemicals manufacturing subcategory.**

(1) For the purpose of calculating and applying effluent limitations for COD, BOD<sub>5</sub>, and TSS, and applying pH limits under BPT in s. NR 233.12, BCT in s. NR 233.13, and NSPS in s. NR 233.15:

(a) This subchapter applies to discharges resulting from the manufacture of organic pesticide active ingredients and organotin pesticide active ingredients except those listed in par. (b).

(b) This subchapter does not apply to the following:

Allethrin	Naphthalene acetic acid
Benzyl benzoate	Propargite
Bisethoxyanthogen	1,8 Naphthalic anhydride
Chlorophacinone	Quinmethionate
Coumafuryl	Rotenone
Dimethyl phthalate	Sulfoxide
Diphacinone	Triazine compounds, both symmetrical and asymmetrical
Endothall acid	
EXD (Herbisan)	
Gibberellic acid	Warfarin and similar anticoagulants.
Glyphosate	

(c) The effluent limitations of this subchapter for BOD<sub>5</sub> and TSS, but not COD, apply to the manufacturers of the following:

Ametryn	Prometryn
Atrazine	Propazine
Cyanazine	Simazine
Glyphosate	Terbutylazine
Hexazinone	Terbutryn
Prometon	

(2) For the purpose of calculating BPT effluent limitations in s. NR 233.12 for organic pesticide chemicals, this subchapter applies to discharges resulting from the manufacture of the following organic active ingredients:

2,4-D	Fenuron
2,4,5-T	Fenuron-TCA
Aldrin	Heptachlor
Aminocarb	Lindane
Azinphos methyl	Linuron
Barban	Malathion
BHC	Methiocarb
Captan	Methoxychlor
Carbaryl	Mexacarbate
Chlordane	Mirex
Chlorpropham	Monuron
Diazinon	Monuron-TCA
DDD	Neubron
DDE	Parathion ethyl
DDT	Parathion methyl
Demeton-O	PCNB
Demeton-S	Perthane
Dicamba	Propham
Dichloran	Propoxur
Dicofol	Siduron
Dieldrin	Silvex
Disulfoton	Swep
Diuron	Toxaphene
Endosulfan	Trifluralin
Endrin	

(3) This subchapter does not apply to the intermediates used to manufacture the active ingredients, and active ingredients used solely in experimental pesticides. BPT coverage in this subchapter does not apply to insecticidal pathogenic organisms such as bacillus thuringiensis, insect growth hormones, plant extracts such as pyrethrins, sex attractants and botanicals such as Rotenone.

(4) A plant that manufactures a pesticide active ingredient listed in Table 1 shall comply with the BAT effluent limitations, new source performance standards, and pretreatment standards both for that ingredient listed in Table 2 or Table 3, and for priority pollutants listed in Tables 4, 5 and 6. The limitations apply as follows:

(a) Table 4 – BAT and NSPS – applies to existing and new direct discharge point sources that use end-of-pipe biological treatment.

(b) Table 5 – BAT and NSPS – applies to existing and new direct discharge point sources that do not use end-of-pipe biological treatment.

(c) Table 6 – PSES and PSNS – applies to existing and new sources that discharge to POTWs.

(5) (a) The discharge quantity for lead and total cyanide shall be determined by multiplying the concentrations listed in the applicable tables times the flow from the non-complexed lead-bearing waste streams for lead and times the flow from non-complexed cyanide-bearing waste streams for total cyanide.

(b) This subchapter does not apply to discharges of cyanide in cyanide-bearing waste streams if:

1. The department or control authority determines that the cyanide limitations and standards are not achievable due to elevated levels of non-amenable cyanide, that is not oxidized by chlorine treatment, that result from the unavoidable complexing of cyanide at the process source of the cyanide-bearing waste stream and establishes an alternative total cyanide or amenable cyanide limitation that reflects the best available technology economically achievable.

2. The determination under subd. 1 shall be based upon a review of relevant engineering, production, and sampling and analysis information, including measurements of both total and amenable cyanide in the waste stream.

3. An analysis of the extent of complexing in the waste stream, based on the information in subds. 1 and 2, and its impact on cyanide treatability shall be set forth in writing and, for direct dischargers, be contained in the fact sheet required by 40 CFR 124.8.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.11 Specialized definitions.** The following definitions apply to the terms used in this subchapter:

(1) "Organic active ingredients" means carbon-containing active ingredients used in pesticides, excluding metallo-organic active ingredients.

(2) "Organic pesticide chemicals" means the sum of all organic active ingredients listed in s. NR 233.10 (2) which are manufactured at a facility subject to this subchapter.

(3) "Total organic active ingredients" means the sum of all organic active ingredients covered by s. NR 233.10 (1) which are manufactured at a facility subject to this subchapter.

(4) (a) "Process wastewater flow" means the sum of the average daily flow from the following wastewater streams:

- Process stream and product washes
- Equipment and floor washers
- Water used as solvent for raw materials
- Water used as reaction medium
- Spent acids
- Spent bases
- Contact cooling water
- Water of reaction
- Air pollution control blowdown
- Stream jet blowdown
- Vacuum pump water
- Pump seal water
- Safety equipment cleaning water
- Shipping container cleanout
- Safety shower water
- Contaminated storm water
- Product/process laboratory quality control wastewater

(b) Does not mean wastewaters from the production of intermediate chemicals.

(5) "Process wastewater pollutants" means those pollutants present in process wastewater flow.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).** Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of BPT:

BPT Effluent Limitations		
Effluent characteristics	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days may not exceed
COD .....	13.000	9.0000
BOD <sub>5</sub> .....	7.400	1.6000
TSS .....	6.100	1.8000
Organic pesticide chemicals .....	.010	.0018
pH .....	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup>Within the range of 6.0 to 9.0.

Note: For COD, BOD<sub>5</sub> and TSS, metric units: Kilogram/1,000 kg of total organic active ingredients. English units: Pound/1000 lb. of total organic active ingredients.

For organic pesticide chemicals, metric units: Kilogram/1,000 kg of organic pesticide chemicals. English units: Pound/1,000 lb. of organic pesticide chemicals.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).** Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve effluent limitations representing the degree of effluent reduction attainable by the application of BCT. The limitations for BOD<sub>5</sub>, TSS, and pH are the same as those specified in the table in s. NR 233.12.

BCT Effluent Limitations		
Pollutant or pollutant property	Maximum for any one day <sup>2</sup>	Average of daily values may not exceed <sup>2</sup>
BOD <sub>5</sub> .....	7.400	1.6000
TSS .....	6.100	1.8000
pH .....	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup>Within the range 6.0 to 9.0

<sup>2</sup>Metric units: Kilogram pollutant/1,000 kg of total organic active ingredients. English units: Pound pollutant/1,000 lb of total organic active ingredients

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.14 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available control technology economically achievable (BAT).** Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to this subchapter shall achieve effluent limitations representing the degree of effluent reduction attainable by the application of BAT as specified in s. NR 233.10 (4). For the priority pollutants, sources shall achieve discharges not exceeding the quantity or mass determined by multiplying the process wastewater flow times the appropriate concentrations listed in Table 4 or Table 5.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.15 New source performance standards (NSPS).** (1) Any new source subject to this subchapter which discharges process wastewater pollutants shall achieve the NSPS specified in s. NR 233.10 (4), and subject to s. NR 233.10 (1) shall meet the following standards for BOD<sub>5</sub>, TSS, COD and pH:

New Source Performance Standards		
Pollutant or pollutant property	Maximum for any one day <sup>2</sup>	Average of daily values may not exceed <sup>2</sup>
COD .....	9.360	6.480
BOD <sub>5</sub> .....	5.328	1.1520
TSS .....	4.392	1.2960
pH .....	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup>Within the range 6.0 to 9.0

<sup>2</sup>Metric units: Kilogram pollutant/1,000 kg of total organic active ingredients. English units: Pound pollutant/1,000 lb of total organic active ingredients

(2) Any new source subject to this subchapter which discharges priority pollutants may not exceed the quantity or mass determined by multiplying the process wastewater flow times the appropriate concentrations listed in Table 4 or Table 5.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.16 Pretreatment standards for existing sources (PSES).** Except as provided in s. NR 211.13, any existing source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and achieve PSES as specified in s. NR 233.10 (4). For the priority pollutants, sources shall achieve discharges not exceeding the quantity or mass determined by multiplying the process wastewater flow subject to this subchapter times the concentrations listed in Table 6. If mass limitations have not been developed as required, the source shall achieve discharges not exceeding the concentration limitations listed in Table 6.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.17 Pretreatment standards for new sources (PSNS).** Except as provided in s. NR 211.13, any new source subject to this subchapter which introduces pollutants into a POTW shall comply with ch. NR 211 and shall achieve PSNS as specified in s. NR 233.10 (4). For the priority pollutants, sources shall achieve discharges not exceeding the quantity or mass determined by multiplying the process wastewater flow subject to this subchapter times the concentrations listed in Table 6. If mass limitations have not been developed as required, the source shall achieve discharges not exceeding the concentration limitations listed in Table 6.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**Subchapter III – Metallo–Organic Pesticide Chemicals Manufacturing Subcategory**

**NR 233.20 Applicability; description of the metallo–organic pesticides chemicals manufacturing subcategory.** This subchapter applies to discharges resulting from the manufacture of metallo–organic active ingredients containing mercury, cadmium, arsenic or copper. This subchapter does not apply to the manufacture of intermediates used to manufacture the active ingredients.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.21 Specialized definitions.** “Metallo–organic active ingredients” means carbon containing active ingredients containing one or more metallic atoms in the structure.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).** Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to the

provisions of this subchapter may not discharge process wastewater pollutants into waters of the state.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

#### **Subchapter IV – Pesticide Chemicals Formulating and Packaging Subcategory**

**NR 233.30 Applicability; description of the pesticide chemicals formulating and packaging subcategory.** This subchapter applies to discharges resulting from all pesticide formulating and packaging operations.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

**NR 233.31 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).** Except as provided in 40 CFR 125.30 to 125.32, any existing point source subject to the provi-

sions of this subchapter may not discharge process wastewater pollutants into waters of the state.

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

#### **Subchapter V – Test Methods for Pesticide Pollutants**

##### **NR 233.40 Identification of test procedures.**

(1) Table 7 names the pesticide active ingredients subject to this chapter, together with the chemical abstracts service (CAS) number used for identification and the analytical method designation.

(2) Except as provided in s. NR 219.05, the discharge parameter values required under the clean water act shall be determined by one of the analytical methods cited in Table 7.

(3) Except where identical to Table 7, pesticide manufacturers may not use the analytical methods cited in ch. NR 219, Tables B, C and D.

Note: The full texts of the analytical methods cited in table 7 are contained in the "Methods For The Determination of Nonconventional Pesticides In Municipal and Industrial Wastewater, Volume I," EPA 821-R-93-010A (August 1993 Revision I) and "Volume II", EPA 821-R-93-010B (August 1993) (the "Compendium").

History: Cr. Register, March, 1997, No. 495, eff. 4-1-97.

Table 1  
List of Organic Pesticide Active Ingredients

EPA Census Code	Pesticide Code	Pesticide Name	CAS No.
1	10501	Dicofol (1,1-Bis(chlorophenyl)-2,2,2-trichloroethanol)	00115-32-2
2	51501	Maleic Hydrazide	00123-33-1
3	42002	EDB (1,2-Ethylene dibromide)	00106-93-4
4	82901	Vancide TH (1,3,5-Triethylhexahydro-s-triazine)	07779-27-3
5	29001	Dichloropropene	00542-75-6
7	17901	Dowicil 75 (1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantanechloride)	04080-31-3
8	109901	Triadimefon	43121-43-3
9	44901	Hexachlorophene (nabac)	00070-30-4
10	55004	Tetrachlorophene	01940-43-8
11	55001	Dichlorophene	00097-23-4
12	84001	Dichlorvos	00062-73-7
13	102401	Landrin-2 (2,3,5-trimethylphenylmethylcarbamate)	02686-99-9
14	82601	Fenac (2,3,6-Trichlorophenylacetic acid)	00085-34-7
14	( <sup>1</sup> )	Fenac Salts and Esters	( <sup>1</sup> )
15	82001	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	00093-76-5
15	( <sup>1</sup> )	2,4,5-T Salts and Esters	( <sup>1</sup> )
16	30001	2,4-D (2,4-Dichlorophenoxyacetic acid)	00094-75-7
16	( <sup>1</sup> )	2,4-D Salts and Esters	( <sup>1</sup> )
17	30801	2,4-DB (2,4-Dichlorophenoxybutyric acid)	00094-82-6
17	( <sup>1</sup> )	2,4-DB Salts and Esters	( <sup>1</sup> )
18	80811	Anilazine (2,4-Dichloro-6-(o-chloroanilino)-s-triazine)	00101-05-3
19	36001	Dinocap	39300-45-3
20	31301	Dichloran (2,6-dichloro-4-nitroaniline)	00099-30-9
21	8707	Busan 90 (2-Bromo-4-hydroxyacetophenone)	02491-38-5
22	15801	Mevinphos	07786-34-7
23	39001	Sulfallate (2-chloroallyldiethylthiocarbamate)	00095-06-7
24	84101	Chlorfenvinphos	00470-90-6
25	10010	Cyanazine	21725-46-2
26	19101	Propachlor	01918-16-7
27	30501	MCPA (2-Methyl-4-chlorophenoxyacetic acid)	00094-74-6
27	( <sup>1</sup> )	MCPA Salts and Esters	( <sup>1</sup> )
28	99901	Octhilinone	26530-20-1
29	67703	Pindone	00083-26-1
30	31401	Dichlorprop (2-(2,4-Dichlorophenoxy) propionic acid)	00120-36-5
30	( <sup>1</sup> )	Dichlorprop Salts and Esters	( <sup>1</sup> )
31	31501	MCPP (2-(2-Methyl-4-chlorophenoxy) propionic acid)	00093-65-2
31	( <sup>1</sup> )	MCPP Salts and Esters	( <sup>1</sup> )
32	60101	Thiabendazole	00148-79-8
33	80815	Belcane 310 (2-(methylthio)-4-(ethylamino)-6-(1,2-dimethylamino)-s-triazine)	22936-75-0
34	21201	Cloprop (2-(m-Chlorophenoxy) propionic acid)	00101-10-0
34	( <sup>1</sup> )	Cloprop Salts and Esters	( <sup>1</sup> )

EPA Census Code	Pesticide Code	Pesticide Name	CAS No.
35	35603	TCMTB (2-(Thiocyanomethylthio) benzothiazole)	21564-17-0
36	99001	HAE (2-((Hydroxymethyl)amino) ethanol)	34375-28-5
37	6770	Chlorophacinone	03691-35-8
38	102401	Landrin-1 (3,4,5-trimethylphenylmethylcarbamate)	02686-99-9
39	101701	Pronamide	23950-58-5
40	100501	Methiocarb	02032-65-7
41	28201	Propanil	00709-98-8
42	107801	3-Iodo-2-propynyl butylcarbamate	55406-53-6
43	86001	3-(a-Acetylfurfuryl)-4-hydroxycoumarin (Coumafuryl)	00117-52-2
43	( <sup>1</sup> )	Coumafuryl Salts and Esters	( <sup>1</sup> )
44	37507	DNOC (4,6-dinitro-o-cresol)	00534-52-1
45	101101	Metribuzin	21087-64-9
46	19401	CPA (4-chlorophenoxyacetic acid)	00122-88-3
46	( <sup>1</sup> )	CPA Salts and Esters	( <sup>1</sup> )
47	19201	MCPB (4-(2-Methyl-4-chlorophenoxy) butyric acid)	00094-81-5
47	( <sup>1</sup> )	MCPB Salts and Esters	( <sup>1</sup> )
48	44401	Aminocarb (4-(dimethylamino)-m-tolylmethylcarbamate)	02032-59-9
49	84701	Etridiazole	02593-15-9
50	55501	Ethoxyquin	00091-53-2
51	59804	Quinoliol sulfate (8-Quinoliol sulfate)	00134-31-6
52	103301	Acephate	30560-19-1
53	114401	Acifluorfen	50594-66-6
53	114402	Acifluorfen Salts and Esters	62476-59-9
54	90501	Alachlor	15972-60-8
55	98301	Aldicarb	00116-06-3
56	69105	Hyamine 3500 (Alkyl* dimethyl benzyl ammonium chloride* (50% C14, 40% C12, 10% C16))	68424-85-1
57	4001	Allethrin (all isomers and allethrin coil)	00584-79-2
58	80801	Ametryn	00834-12-8
59	106201	Amitraz	33089-61-1
60	80803	Atrazine	01912-24-9
61	105201	Bendiocarb	22781-23-3
62	99101	Benomyl and Carbendazim	17804-35-2
63	8901	Benzene Hexachloride	00608-73-1
64	9501	Benzyl benzoate	00120-51-4
65	10101	Lethane 384 (Beta-Thiocanoethyl esters of mixed fatty acids containing from 10-18 carbons)	00301-11-1
66	104301	Bifenox	42576-02-3
68	12301	Bromacil	00314-40-9
68	12302	Bromacil, lithium	53404-19-6
69	35301	Bromoxynil	01689-84-5
69	35302	Bromoxynil octanoate	01689-99-2
70	112301	Butachlor	23184-66-9
70	101401	Giv-gard (beta-Bromo-beta-nitrostyrene)	07166-19-0
73	81701	Captafol	02425-06-1

EPA Census Code	Pesticide Code	Pesticide Name	CAS No.
74	81301	Captan	00133-06-2
75	56801	Carbaryl (Sevin)	00063-25-2
76	90601	Carbofuran	01563-66-2
77	90602	Carbosulfan	55285-14-8
78	29901	Chloramben	00133-90-4
78	( <sup>1</sup> )	Chloramben Salts and Esters	( <sup>1</sup> )
79	58201	Chlordane	00057-74-9
80	27301	Chloroneb	02675-77-6
81	81501	Chloropicrin	00076-06-2
82	81901	Chlorothalonil	01897-45-6
83	25501	Chloroxuron	01982-47-4
84	83701	Stirofos	00961-11-5
85	59102	Chlorpyrifos methyl	05598-13-0
86	59101	Chlorpyrifos	02921-88-2
87	14504	Mancozeb	08018-01-7
90	109301	Fenvalerate	51630-58-1
91	43401	Cycloheximide	00066-81-9
92	28901	Dalapon (2,2-dichloropropionic acid)	00075-99-0
92	( <sup>1</sup> )	Dalapon Salts and Esters	( <sup>1</sup> )
93	27501	Dienochlor	02227-17-0
94	57601	Demeton (O,O-Diethyl O-(and S-) (2-ethylthio)ethyl) phosphorothioate)	08065-48-3
95	104801	Desmedipham	13684-56-5
96	14502	Diammonium ethylenebisdithiocarbamate	03566-10-7
97	11301	DBCP (Dibromo-3-chloropropane)	00096-12-8
98	29801	Dicamba (3,6-Dichloro-o-anisic acid)	01918-00-9
98	( <sup>1</sup> )	Dicamba Salts and Esters	( <sup>1</sup> )
99	29601	Dichlone (Phygon)	00117-80-6
100	103401	Thiophanate ethyl	23564-06-9
101	32101	Perthane (Diethyl diphenyl dichloroethane and related compounds)	00072-56-0
102	86501	EXD (Diethyl dithiobis (thionoformate))	00502-55-6
103	57801	Diazinon	00333-41-5
104	108201	Diflubenzuron	35367-38-5
105	69122	Benzethonium chloride	00121-54-0
106	35001	Dimethoate	00060-51-5
107	53501	Parathion methyl	00298-00-0
108	35201	Dicrotophos	00141-66-2
109	58801	Crotoxyphos	07700-17-6
110	78701	DCPA (Dimethyl 2,3,5,6-tetrachloroterephthalate)	01861-32-1
111	57901	Trichlorofon	00052-68-6
112	37505	Dinoseb	00088-85-7
113	37801	Dioxathion	00078-34-2
114	67701	Diphacinone	00082-66-6
115	36601	Diphenamid	00957-51-7
116	38501	Diphenylamine	00122-39-4

EPA Census Code	Pesticide Code	Pesticide Name	CAS No.
116	47201	MGK 326 (Dipropyl isocinchomeronate)	00113-48-4
118	63301	Nabonate (Disodium cyanodithioimidocarbonate)	00138-93-2
119	35505	Diuron	00330-54-1
120	44303	Metasol DGH (Dodecylguanidine hydrochloride)	13590-97-1
121	44301	Dodine (dodecylguanidine acetate)	02439-10-3
122	79401	Endosulfan (Hexachlorohexahydromethano-2,4,3-benzdioxathiepin-3-oxide)	00115-29-7
123	38901	Endothall	00145-73-3
123	( <sup>1</sup> )	Endothall Salts and Esters	( <sup>1</sup> )
124	41601	Endrin	00072-20-8
125	113101	Ethalfuralin	55283-68-6
126	58401	Ethion	00563-12-2
127	41101	Ethoprop	13194-48-4
128	100601	Fenamiphos	22224-92-6
129	28801	Chlorobenzilate	00510-15-6
130	41405	Butylate	02008-41-5
131	59901	Famphur	00052-85-7
132	206600	Fenarimol	60168-88-9
133	53301	Fenthion	00055-38-9
134	34801	Ferbam	14484-64-1
135	35503	Fluometuron	02164-17-2
136	75002	Fluoroacetamide	00640-19-7
137	81601	Folpet	00133-07-3
138	103601	Glyphosate (N-(Phosphonomethyl) glycine)	01071-83-6
138	( <sup>1</sup> )	Glyphosate Salts and Esters	( <sup>1</sup> )
139	103602	Glyphosine	02439-99-8
140	44801	Heptachlor	00076-44-8
141	115601	Cycloprate	54460-46-7
142	107201	Hexazinone	51235-04-2
143	109401	Isofenphos	25311-71-1
144	100201	Isopropalin	33820-53-0
145	47601	Propham	00122-42-9
146	97401	Karbutilate	04849-32-5
147	9001	Lindane	00058-89-9
148	35506	Linuron	00330-55-2
149	39504	Malachite green (Ammonium(4-(p-(dimethylamino) - alpha-phenylbenzylidene)-2,5-cyclohexadien-1-ylidene)-dimethyl chloride)	00569-64-2
150	57701	Malathion	00121-75-5
151	14505	Maneb	12427-38-2
152	34802	Manganous dimethyldithiocarbamate	15339-36-3
153	114001	Mefluidide (N-(2,4-dimethyl-5-((trifluoromethyl) sulfonyl)-amino) phenyl acetamide)	53780-34-0
153	( <sup>1</sup> )	Mefluidide Salts and Esters	( <sup>1</sup> )
154	101201	Methamidophos	10265-92-6
155	100301	Methidathion	00950-37-8



EPA Census Code	Pesticide Code	Pesticide Name	CAS No.
156	90301	Methomyl	16752-77-5
157	105401	Methoprene	40596-69-8
158	34001	Methoxychlor	00072-43-5
159	69134	Methylbenzethonium chloride	15716-02-6
160	53201	Methylbromide	00074-83-9
162	69129	Hyamine 2389 (Methyldodecylbenzyl trimethyl ammonium chloride 80% and methyldodecylxylene bis (trimethylammoniumchloride) 20%)	01399-80-0
163	68102	Methylenebisthiocyanate	06317-18-6
164	54101	Quinmethionate	02439-01-2
165	108801	Metolachlor	51218-45-2
166	44201	Mexacarbate	00315-18-4
167	14601	Metiram	09006-42-2
168	35502	Monuron TCA	00140-41-0
169	35501	Monuron	00150-68-5
170	103001	Napropamide	15299-99-7
171	80301	Deet	00134-62-3
172	14503	Nabam	00142-59-6
173	34401	Naled	00300-76-5
174	35801	Norea	18530-56-8
175	105801	Norflurazon	27314-13-2
176	30701	N-1-Naphthylphthalimide	05333-99-3
176	30702	Naptalam (N-1-Naphthylphthalamic acid)	00132-66-1
176	30703	Naptalam Salts and Esters	00132-67-2
177	57001	MGK 264 (N-2-Ethylhexyl bicycloheptene dicarboximide)	00136-45-8
178	84301	Benfluralin	01861-40-1
179	79501	Sulfotepp	03689-24-5
180	79101	Aspon	03244-90-4
181	36501	Coumaphos	00056-72-4
182	32701	Fensulfothion	00115-90-2
183	32501	Disulfoton	00298-04-4
184	105901	Fenitrothion	00122-14-5
185	59201	Phosmet	00732-11-6
186	58001	Azinphos Methyl	00086-50-0
187	58702	Oxydemeton methyl	00301-12-2
192	( <sup>1</sup> )	Organo-tin pesticides	( <sup>1</sup> )
194	104201	Oryzalin	19044-88-3
195	103801	Oxamyl	23135-22-0
196	111601	Oxyfluorfen	42874-03-3
197	111501	Bolstar (Sulprofos)	35400-43-2
198	219900	Sulprofos Oxon	38527-90-1
199	41801	Santox (O-Ethyl O-(p-nitrophenyl) phenylphosphonothioate)	02104-64-5
200	41701	Fonofos	00944-22-9
201	47802	Propoxur (o-Isopropylphenylmethylcarbamate)	00114-26-1
202	57501	Parathion	00056-38-2

EPA Census Code	Pesticide Code	Pesticide Name	CAS No.
203	108501	Pendimethalin	40487-42-1
204	56502	Pentachloronitrobenzene	00082-68-8
205	63001	Pentachlorophenol	00087-86-5
206	63003	Pentachlorophenol Salts and Esters	00131-52-2
207	108001	Perfluidone	37924-13-3
208	109701	Permethrin	52645-53-1
209	98701	Phenmedipham	13684-63-4
210	64501	Phenothiazine	00092-84-2
211	64103	Phenylphenol	00090-43-7
212	57201	Phorate	00298-02-2
213	97701	Phosalone	02310-17-0
214	18201	Phosphamidon	13171-21-6
215	5101	Picloram	01918-02-1
215	5104	Picloram Salts and Esters	02545-60-0
216	67501	Piperonyl butoxide	00051-03-6
217	69183	PBED (Busan 77) (Poly (oxyethylene (dimethylimino) ethylene (dimethylimino) ethylene dichloride)	31512-74-0
218	34803	Busan 85 (Potassium dimethyldithiocarbamate)	00128-03-0
219	102901	Busan 40 (Potassium N-hydroxymethyl-N-methyldithiocarbamate)	51026-28-9
220	39002	KN Methyl (Potassium N-methyldithiocarbamate)	00137-41-7
221	101301	Metasol J26 (Potassium N-(alpha-(nitroethyl) benzyl)-ethylenediamine)	53404-62-9
222	111401	Profenofos	41198-08-7
223	80804	Prometon	01610-18-0
224	80805	Prometryn	07287-19-6
225	97601	Propargite	02312-35-8
226	80808	Propazine	00139-40-2
227	77702	Propionic acid	00079-09-4
228	119301	Propamocarb and Propamocarb HCL	24579-73-5
229	69004	Pyrethrin coils	00121-21-1
230	69001	Pyrethrin I	
231	69002	Pyrethrum (other than pyrethrins)	08003-34-7
232	69006	Pyrethrin II	00121-29-9
233	97801	Resmethrin	10453-86-8
234	58301	Ronnel	00299-84-3
235	71003	Rotenone	00083-79-4
236	74801	DEF (S,S,S-Tributyl phosphorotrithioate)	00078-48-8
237	35509	Siduron	01982-49-6
238	82501	Silvex (2-(2,4,5-Trichlorophenoxypropionic acid))	00093-72-1
238	(1)	Silvex Salts and Esters	(1)
239	80807	Simazine	00122-34-9
240	103901	Bentazon	25057-89-0
241	34804	Carbam-S (Sodium dimethyldithiocarbamate)	00128-04-1
242	75003	Sodium monofluoroacetate	00062-74-8
243	39003	Vapam (Sodium methyldithiocarbamate)	00137-42-8

EPA Census Code	Pesticide Code	Pesticide Name	CAS No.
244	57101	Sulfoxide	00120-62-7
245	41301	Cycloate	01134-23-2
246	41401	EPTC (S-Ethyl dipropylthiocarbamate)	00759-94-4
247	41402	Molinate	02212-67-1
248	41403	Pebulate	01114-71-2
249	41404	Vernolate	01929-77-7
250	35604	HPTMS (S-(2-Hydroxypropyl) thiomethanesulfonate)	29803-57-4
251	9801	Bensulide	00741-58-2
252	105501	Tebuthiuron	34014-18-1
253	59001	Temephos	03383-96-8
254	12701	Terbacil	05902-51-2
255	105001	Terbufos	13071-79-9
256	80814	Terbutylazine	05915-41-3
257	80813	Terbutryn	00886-50-0
258	63004	Tetrachlorophenol	25167-83-3
258	63007	Tetrachlorophenol Salts and Esters	( <sup>1</sup> )
259	35602	Dazomet	00533-74-4
260	102001	Thiophanate methyl	23564-05-8
261	79801	Thiram	00137-26-8
262	80501	Toxaphene	08001-35-2
263	74901	Merphos (Tributyl phosphorotrithioate)	00150-50-5
264	36101	Trifluralin	01582-09-8
265	86002	Warfarin (3-( $\alpha$ -Acetylbenzyl)-4-hydroxycoumarin)	00081-81-2
265	( <sup>1</sup> )	Warfarin Salts and Esters	( <sup>1</sup> )
266	51705	Zinc MBT (Zinc 2-mercaptobenzothiazolate)	00155-04-4
267	14506	Zineb	12122-67-7
268	34805	Ziram	00137-30-4
269	78802	S-(2,3,3-trichloroallyl) diisopropyl-thiocarbamate	02303-17-5
270	69005	Phenothrin	26002-80-2
271	69003	Tetramethrin	07696-12-0
272	18301	Chloroprotham	00101-21-3

<sup>1</sup>Multiple compounds for active ingredient.

**Table 2**  
**Organic Pesticide Active Ingredient Effluent Limitations**  
**BAT AND PSES**

Pesticide	kg/kkg (lb/1,000 lb) Pounds of pollutant per 1000 lbs. product		Notes
	Daily maximum may not exceed	Monthly average may not exceed	
2,4-D .....	$1.97 \times 10^{-3}$	$6.40 \times 10^{-4}$	
2,4-D Salts and Esters .....	( <sup>1</sup> )	( <sup>1</sup> )	
2,4-DB Salts and Esters .....	( <sup>1</sup> )	( <sup>1</sup> )	
Acephate .....	$6.39 \times 10^{-4}$	$1.97 \times 10^{-4}$	
Acifluorfen .....	2.45	$9.30 \times 10^{-1}$	
Alachlor .....	$5.19 \times 10^{-3}$	$1.54 \times 10^{-3}$	
Aldicarb .....	$7.23 \times 10^{-4}$	$3.12 \times 10^{-4}$	
Ametryn .....	$7.72 \times 10^{-3}$	$2.53 \times 10^{-3}$	
Atrazine .....	$5.12 \times 10^{-3}$	$1.72 \times 10^{-3}$	
Azinphos Methyl .....	$2.74 \times 10^{-2}$	$1.41 \times 10^{-2}$	
Benfluralin .....	$3.22 \times 10^{-4}$	$1.09 \times 10^{-4}$	1
Benomyl and Carbendazim .....	$3.50 \times 10^{-2}$	$8.94 \times 10^{-3}$	2
Bolstar .....	$1.69 \times 10^{-2}$	$8.72 \times 10^{-3}$	
Bromacil .....	$3.83 \times 10^{-1}$	$1.16 \times 10^{-1}$	
Bromacil, lithium .....	( <sup>1</sup> )	( <sup>1</sup> )	
Bromoxynil .....	$3.95 \times 10^{-3}$	$1.27 \times 10^{-3}$	
Bromoxynil octanoate .....	$3.95 \times 10^{-3}$	$1.27 \times 10^{-3}$	
Busan 40 (Potassium N-hydroxymethyl-N-methylthiocarbamate) .....	$5.74 \times 10^{-3}$	$1.87 \times 10^{-3}$	
Busan 85 (Potassium dimethyldithiocarbamate) .....	$5.74 \times 10^{-3}$	$1.87 \times 10^{-3}$	
Butachlor .....	$5.19 \times 10^{-3}$	$1.54 \times 10^{-3}$	
Captafol .....	$4.24 \times 10^{-6}$	$1.31 \times 10^{-6}$	
Carbam-S (Sodium dimethyldithiocarbamate) .....	$5.74 \times 10^{-3}$	$1.87 \times 10^{-3}$	
Carbaryl .....	$1.60 \times 10^{-3}$	$7.30 \times 10^{-4}$	
Carbofuran .....	$1.18 \times 10^{-4}$	$2.80 \times 10^{-5}$	
Chloroneb .....	$8.16 \times 10^{-2}$	$3.31 \times 10^{-2}$	
Chlorothalonil .....	$1.51 \times 10^{-3}$	$4.57 \times 10^{-4}$	
Chlorpyrifos .....	$8.25 \times 10^{-4}$	$2.43 \times 10^{-4}$	
Cyanazine .....	$1.03 \times 10^{-2}$	$3.33 \times 10^{-3}$	
Dazomet .....	$5.74 \times 10^{-3}$	$1.87 \times 10^{-3}$	
DCPA .....	$7.79 \times 10^{-2}$	$2.64 \times 10^{-2}$	
DEF (S,S,S-Tributyl phosphorotrithioate) .....	$1.15 \times 10^{-2}$	$5.58 \times 10^{-3}$	
Diazinon .....	$2.82 \times 10^{-3}$	$1.12 \times 10^{-3}$	
Dichlorprop Salts and Esters .....	( <sup>1</sup> )	( <sup>1</sup> )	
Dichlorvos .....	$9.60 \times 10^{-5}$	$2.95 \times 10^{-5}$	
Dinoseb .....	4.73	1.43	
Dioxathion .....	$3.40 \times 10^{-2}$	$1.29 \times 10^{-2}$	
Disulfoton .....	$7.33 \times 10^{-3}$	$3.79 \times 10^{-3}$	

Pesticide	kg/kkg (lb/1,000 lb) Pounds of pollutant per 1000 lbs. product		Notes
	Daily maximum may not exceed	Monthly average may not exceed	
Diuron .....	$3.15 \times 10^{-2}$	$1.40 \times 10^{-2}$	
Endothall Salts and Esters .....	( <sup>1</sup> )	( <sup>1</sup> )	
Endrin .....	$2.20 \times 10^{-2}$	$5.10 \times 10^{-3}$	
Ethalfuralin .....	$3.22 \times 10^{-4}$	$1.09 \times 10^{-4}$	1
Ethion .....	$5.51 \times 10^{-3}$	$1.57 \times 10^{-3}$	
Fenarimol .....	$1.02 \times 10^{-1}$	$3.61 \times 10^{-2}$	
Fensulfothion .....	$1.48 \times 10^{-2}$	$7.64 \times 10^{-3}$	
Fenthion .....	$1.83 \times 10^{-2}$	$9.45 \times 10^{-3}$	
Fenvalerate .....	$5.40 \times 10^{-3}$	$2.08 \times 10^{-3}$	
Heptachlor .....	$8.80 \times 10^{-3}$	$2.90 \times 10^{-3}$	
Isopropalin .....	$7.06 \times 10^{-3}$	$2.49 \times 10^{-3}$	1
KN Methyl (Potassium N-methyldithiocarbamate) ....	$5.74 \times 10^{-3}$	$1.87 \times 10^{-3}$	
Linuron .....	$2.69 \times 10^{-3}$	$1.94 \times 10^{-3}$	
Malathion .....	$2.35 \times 10^{-4}$	$9.55 \times 10^{-5}$	
MCPA Salts and Esters .....	( <sup>1</sup> )	( <sup>1</sup> )	
MCPP Salts and Esters .....	( <sup>1</sup> )	( <sup>1</sup> )	
Merphos .....	$1.15 \times 10^{-2}$	$5.58 \times 10^{-3}$	
Methamidophos .....	$1.46 \times 10^{-2}$	$7.53 \times 10^{-2}$	
Methomyl .....	$3.82 \times 10^{-3}$	$1.76 \times 10^{-3}$	
Methoxychlor .....	$3.23 \times 10^{-3}$	$1.31 \times 10^{-3}$	
Metribuzin .....	$1.36 \times 10^{-2}$	$7.04 \times 10^{-3}$	
Mevinphos .....	$1.44 \times 10^{-4}$	$5.10 \times 10^{-5}$	
Nabam .....	$5.74 \times 10^{-3}$	$1.87 \times 10^{-3}$	
Nabonate .....	$5.74 \times 10^{-3}$	$1.87 \times 10^{-3}$	
Naled .....	( <sup>1</sup> )	( <sup>1</sup> )	
Norflurazon .....	$7.20 \times 10^{-4}$	$3.10 \times 10^{-4}$	
Organo-tin pesticides .....	$1.72 \times 10^{-2}$	$7.42 \times 10^{-3}$	3
Parathion .....	$7.72 \times 10^{-4}$	$3.43 \times 10^{-4}$	
Parathion methyl .....	$7.72 \times 10^{-4}$	$3.43 \times 10^{-4}$	
PCNB .....	$5.75 \times 10^{-4}$	$1.90 \times 10^{-4}$	
Pendimethalin .....	$1.17 \times 10^{-2}$	$3.62 \times 10^{-3}$	
Pernetgrub .....	$2.32 \times 10^{-3}$	$6.06 \times 10^{-5}$	
Phorate .....	$3.12 \times 10^{-4}$	$9.37 \times 10^{-5}$	
Phosmet .....	( <sup>1</sup> )	( <sup>1</sup> )	4
Prometon .....	$7.72 \times 10^{-3}$	$2.53 \times 10^{-3}$	
Prometryn .....	$7.72 \times 10^{-3}$	$2.53 \times 10^{-3}$	
Pronamide .....	$6.64 \times 10^{-4}$	$2.01 \times 10^{-4}$	
Propachlor .....	$5.19 \times 10^{-3}$	$1.54 \times 10^{-3}$	
Propanil .....	$1.06 \times 10^{-3}$	$4.84 \times 10^{-4}$	
Propazine .....	$7.72 \times 10^{-3}$	$2.53 \times 10^{-3}$	

Pesticide	kg/kg (lb/1,000 lb) Pounds of pollutant per 1000 lbs. product		Notes
	Daily maximum may not exceed	Monthly average may not exceed	
Pyrethrin I and Pyrethrin II .....	$1.24 \times 10^{-2}$	$3.33 \times 10^{-3}$	
Simazine .....	$7.72 \times 10^{-3}$	$2.53 \times 10^{-3}$	
Stirofos .....	$4.10 \times 10^{-3}$	$1.35 \times 10^{-3}$	
TCMTB .....	$3.89 \times 10^{-3}$	$1.05 \times 10^{-3}$	
Tebuthiuron .....	$9.78 \times 10^{-2}$	$3.40 \times 10^{-2}$	
Terbacil .....	$3.83 \times 10^{-1}$	$1.16 \times 10^{-1}$	
Terbufos .....	$4.92 \times 10^{-4}$	$1.26 \times 10^{-4}$	
Terbutylazine .....	$7.72 \times 10^{-3}$	$2.53 \times 10^{-3}$	
Terbutryn .....	$7.72 \times 10^{-3}$	$2.53 \times 10^{-3}$	
Toxaphene .....	$1.02 \times 10^{-2}$	$3.71 \times 10^{-3}$	
Triadimefon .....	$6.52 \times 10^{-2}$	$3.41 \times 10^{-2}$	
Trifluralin .....	$3.22 \times 10^{-4}$	$1.09 \times 10^{-4}$	1
Vapam (Sodium methyldithiocarbamate) .....	$5.74 \times 10^{-3}$	$1.87 \times 10^{-3}$	
Ziram (Zinc dimethyldithiocarbamate) .....	$5.74 \times 10^{-3}$	$1.87 \times 10^{-3}$	

<sup>1</sup>No discharge of process wastewater pollutants.

Notes:

- 1 Monitor and report as total Trifluralin.
- 2 Pounds of product include Benomyl and any Carbendazim production not converted to Benomyl.
- 3 Monitor and report as total tin.
- 4 Applies to purification by recrystallization portion of the process.

**Table 3**  
**Organic Pesticide Active Ingredient Effluent Limitations**  
**NSPS and PSNS**

Pesticide	kg/kkg (lb/1,000 lb) Pounds of pollutant per 1000 lbs. product		Notes
	Daily maximum may not exceed	Monthly average may not exceed	
2,4-D	$1.42 \times 10^{-3}$	$4.61 \times 10^{-4}$	
2,4-D Salts and Esters	( <sup>1</sup> )	( <sup>1</sup> )	
2,4-DB Salts and Esters	( <sup>1</sup> )	( <sup>1</sup> )	
Acephate	$6.39 \times 10^{-4}$	$1.97 \times 10^{-4}$	
Acifluorfen	1.77	$6.69 \times 10^{-1}$	
Alachlor	$3.74 \times 10^{-3}$	$1.11 \times 10^{-3}$	
Aldicarb	$5.21 \times 10^{-4}$	$2.25 \times 10^{-4}$	
Ametryn	$5.56 \times 10^{-3}$	$1.82 \times 10^{-3}$	
Atrazine	$3.69 \times 10^{-3}$	$1.24 \times 10^{-3}$	
Benfluralin	$3.22 \times 10^{-4}$	$1.09 \times 10^{-4}$	1
Benomyl and Carbendazom	$2.52 \times 10^{-2}$	$6.44 \times 10^{-3}$	2
Bolstar	$1.22 \times 10^{-2}$	$6.28 \times 10^{-3}$	
Bromacil	$2.76 \times 10^{-1}$	$8.36 \times 10^{-2}$	
Bromacil, lithium	( <sup>1</sup> )	( <sup>1</sup> )	
Bromoxynil	$2.84 \times 10^{-3}$	$9.14 \times 10^{-4}$	
Bromoxynil Octanoate	$2.84 \times 10^{-3}$	$9.14 \times 10^{-4}$	
Busan 40 (Potassium N-hydroxymethyl-N-methylthiocarbamate)	$4.14 \times 10^{-3}$	$1.35 \times 10^{-3}$	
Busan 85 (Potassium dimethyldithiocarbamate)	$4.14 \times 10^{-3}$	$1.35 \times 10^{-3}$	
Butachlor	$3.74 \times 10^{-3}$	$1.11 \times 10^{-3}$	
Captafol	$4.24 \times 10^{-6}$	$1.31 \times 10^{-6}$	
Carbam-S (Sodium dimethyldithiocarbamate)	$4.14 \times 10^{-3}$	$1.35 \times 10^{-3}$	
Carbaryl	$1.18 \times 10^{-3}$	$5.24 \times 10^{-4}$	
Carbofuran	$1.18 \times 10^{-4}$	$2.80 \times 10^{-5}$	
Chloroneb	$5.87 \times 10^{-2}$	$2.39 \times 10^{-2}$	
Chlorothalonil	$1.09 \times 10^{-3}$	$3.29 \times 10^{-4}$	
Chlorpyrifos	$5.94 \times 10^{-4}$	$1.75 \times 10^{-4}$	
Cyanazine	$7.42 \times 10^{-3}$	$2.40 \times 10^{-3}$	
Dazomet	$4.14 \times 10^{-3}$	$1.35 \times 10^{-3}$	
DCPA	$5.61 \times 10^{-2}$	$1.90 \times 10^{-2}$	
DEF (S,S,S-Tributyl phosphorotrithioate)	$1.15 \times 10^{-2}$	$5.58 \times 10^{-3}$	
Diazinon	$2.05 \times 10^{-3}$	$8.13 \times 10^{-4}$	
Dichlorprop Salts and Esters	( <sup>1</sup> )	( <sup>1</sup> )	
Dichlorvos	$6.88 \times 10^{-5}$	$2.13 \times 10^{-5}$	
Dinoseb	3.41	1.03	
Dioxathion	$2.54 \times 10^{-2}$	$9.31 \times 10^{-3}$	
Disulfoton	$5.28 \times 10^{-3}$	$2.72 \times 10^{-3}$	
Diuron	$2.27 \times 10^{-2}$	$1.01 \times 10^{-2}$	

Pesticide	kg/kg (lb/1,000 lb) Pounds of pollutant per 1000 lbs. product		Notes
	Daily maximum may not exceed	Monthly average may not exceed	
Endothall Salts and Esters .....	( <sup>1</sup> )	( <sup>1</sup> )	
Endrin .....	1.57 x 10 <sup>-2</sup>	3.69 x 10 <sup>-3</sup>	
Ethalfuralin .....	3.22 x 10 <sup>-4</sup>	1.09 x 10 <sup>-4</sup>	1
Ethion .....	3.97 x 10 <sup>-3</sup>	1.33 x 10 <sup>-3</sup>	
Fenarimol .....	1.02 x 10 <sup>-1</sup>	3.61 x 10 <sup>-2</sup>	
Fensulfothion .....	1.06 x 10 <sup>-2</sup>	5.50 x 10 <sup>-3</sup>	
Fenthion .....	1.32 x 10 <sup>-2</sup>	6.79 x 10 <sup>-3</sup>	
Fenvalerate .....	3.91 x 10 <sup>-3</sup>	1.50 x 10 <sup>-3</sup>	
Guthion .....	1.97 x 10 <sup>-2</sup>	1.02 x 10 <sup>-2</sup>	
Heptachlor .....	6.31 x 10 <sup>-3</sup>	2.06 x 10 <sup>-3</sup>	
Isopropalin .....	5.07 x 10 <sup>-3</sup>	1.82 x 10 <sup>-3</sup>	
KN Methyl (Potassium N-methyldithiocarbamate) . . .	4.14 x 10 <sup>-3</sup>	1.35 x 10 <sup>-3</sup>	
Linuron .....	1.94 x 10 <sup>-3</sup>	1.40 x 10 <sup>-3</sup>	
Malathion .....	1.69 x 10 <sup>-4</sup>	6.88 x 10 <sup>-5</sup>	
MCPA Salts and Esters .....	( <sup>1</sup> )	( <sup>1</sup> )	
MCPP Salts and Esters .....	( <sup>1</sup> )	( <sup>1</sup> )	
Merphos .....	1.15 x 10 <sup>-2</sup>	5.58 x 10 <sup>-3</sup>	
Methamidophos .....	1.05 x 10 <sup>-2</sup>	5.42 x 10 <sup>-3</sup>	
Methomyl .....	2.75 x 10 <sup>-2</sup>	1.27 x 10 <sup>-3</sup>	
Methoxychlor .....	2.34 x 10 <sup>-3</sup>	9.25 x 10 <sup>-4</sup>	
Metribuzin .....	9.80 x 10 <sup>-3</sup>	5.06 x 10 <sup>-3</sup>	
Mevinphos .....	1.03 x 10 <sup>-4</sup>	3.69 x 10 <sup>-5</sup>	
Nabam .....	4.14 x 10 <sup>-3</sup>	1.35 x 10 <sup>-3</sup>	
Nabonate .....	4.14 x 10 <sup>-3</sup>	1.35 x 10 <sup>-3</sup>	
Naled .....	( <sup>1</sup> )	( <sup>1</sup> )	
Norflurazon .....	7.20 x 10 <sup>-4</sup>	3.10 x 10 <sup>-4</sup>	
Organo-tin pesticides .....	1.25 x 10 <sup>-2</sup>	5.36 x 10 <sup>-3</sup>	3
Parathion Ethyl .....	5.56 x 10 <sup>-4</sup>	2.45 x 10 <sup>-4</sup>	
Parathion Methyl .....	5.56 x 10 <sup>-4</sup>	2.45 x 10 <sup>-4</sup>	
PCNB .....	4.16 x 10 <sup>-4</sup>	1.38 x 10 <sup>-4</sup>	
Pendimethalin .....	1.17 x 10 <sup>-2</sup>	3.62 x 10 <sup>-3</sup>	
Permethrin .....	1.68 x 10 <sup>-4</sup>	4.39 x 10 <sup>-5</sup>	
Phorate .....	3.12 x 10 <sup>-4</sup>	9.37 x 10 <sup>-5</sup>	
Phosmet .....	( <sup>1</sup> )	( <sup>1</sup> )	4
Prometon .....	5.56 x 10 <sup>-3</sup>	1.82 x 10 <sup>-3</sup>	
Prometym .....	5.56 x 10 <sup>-3</sup>	1.82 x 10 <sup>-3</sup>	
Pronamide .....	4.78 x 10 <sup>-4</sup>	1.45 x 10 <sup>-4</sup>	
Propachlor .....	3.74 x 10 <sup>-3</sup>	1.11 x 10 <sup>-3</sup>	
Propanil .....	7.63 x 10 <sup>-4</sup>	3.48 x 10 <sup>-4</sup>	
Propazine .....	5.56 x 10 <sup>-3</sup>	1.82 x 10 <sup>-3</sup>	



Pesticide	kg/kg (lb/l,000 lb) Pounds of pollutant per 1000 lbs. product		Notes
	Daily maximum may not exceed	Monthly average may not exceed	
Pyrethrin I and Pyrethrin II .....	$8.91 \times 10^{-3}$	$2.40 \times 10^{-3}$	
Simazine .....	$5.89 \times 10^{-3}$	$1.91 \times 10^{-3}$	
Stirofos .....	$2.95 \times 10^{-3}$	$9.72 \times 10^{-4}$	
TCMTB .....	$2.80 \times 10^{-9}$	$7.54 \times 10^{-4}$	
Tebuthiuron .....	$9.78 \times 10^{-2}$	$3.41 \times 10^{-2}$	
Terbacil .....	$2.76 \times 10^{-1}$	$8.36 \times 10^{-2}$	
Terbufos .....	$4.92 \times 10^{-4}$	$1.26 \times 10^{-4}$	
Terbutylazine .....	$5.56 \times 10^{-3}$	$1.82 \times 10^{-3}$	
Terbutryn .....	$5.56 \times 10^{-3}$	$1.82 \times 10^{-3}$	
Toxaphene .....	$7.35 \times 10^{-3}$	$2.67 \times 10^{-3}$	
Triadimefon .....	$4.69 \times 10^{-2}$	$2.46 \times 10^{-2}$	
Trifluralin .....	$3.22 \times 10^{-4}$	$1.09 \times 10^{-4}$	1
Vapam (Sodium methylthiocarbamate) .....	$4.14 \times 10^{-3}$	$1.35 \times 10^{-3}$	
Ziram (Zinc dimethylthiocarbamate) .....	$4.14 \times 10^{-3}$	$1.35 \times 10^{-3}$	

<sup>1</sup>No discharge of process wastewater pollutants.

Notes:

- 1 Monitor and report as total Trifluralin.
- 2 Pounds of product include Benomyl and any Carbendazim production not converted to Benomyl.
- 3 Monitor and report as total tin.
- 4 Applies to purification by recrystallization portion of the process.

**Table 4**  
**BAT and NSPS effluent Limitations for Priority Pollutants For Direct Discharge**  
**Point Sources That Use End-of-Pipe Biological Treatment**

Pollutant	(Micrograms per liter (µg/l))	
	Daily maximum may not exceed	Monthly average may not exceed
1,1-Dichloroethylene .....	25	16
1,1,1-Trichloroethane .....	54	21
1,2-Dichloroethane .....	211	68
1,2-Dichloropropane .....	230	153
1,2-Dichlorobenzene .....	163	77
1,2-trans-Dichloroethylene .....	54	21
1,3-Dichloropropene .....	44	29
1,4-Dichlorobenzene .....	28	15
2-chlorophenol .....	98	31
2,4-Dichlorophenol .....	112	39
2,4-Dimethylphenol .....	36	18
Benzene .....	136	37
Bromodichloromethane .....	380	142
Bromomethane .....	380	142
Chlorobenzene .....	28	15
Chloromethane .....	190	86
Cyanide (Total) .....	640	220
Dibromochloromethane .....	794	196
Dichloromethane .....	89	40
Ethylbenzene .....	108	32
Lead (Total) .....	690	320
Naphthalene .....	59	22
Phenol .....	26	15
Tetrachloroethylene .....	56	22
Tetrachloromethane .....	38	18
Toluene .....	80	26
Tribromomethane .....	794	196
Trichloromethane .....	46	21

**Table 5**  
**BAT and NSPS Effluent Limitations for Priority Pollutants For Direct Discharge**  
**Point Sources That Do Not Use End-of-Pipe Biological Treatment**

Pollutant	(Micrograms per liter ( $\mu\text{g/l}$ ))	
	Daily maximum may not exceed	Monthly average may not exceed
1,1-Dichloroethylene .....	60	22
1,1,1-Trichloroethane .....	59	22
1,2-trans-Dichloroethylene .....	66	25
1,2-Dichlorobenzene .....	794	196
1,2-Dichloropropane .....	794	196
1,2-Dichloroethane .....	574	180
1,3-Dichloropropene .....	794	196
1,4-Dichlorobenzene .....	380	142
2,4-Dimethylphenol .....	47	19
Benzene .....	134	57
Bromodichloromethane .....	380	142
Bromomethane .....	380	142
Chlorobenzene .....	380	142
Chloromethane .....	295	110
Cyanide (Total) .....	640	220
Dibromochloromethane .....	794	196
Dichloromethane .....	170	36
Ethylbenzene .....	380	142
Lead (Total) .....	690	320
Naphthalene .....	47	19
Phenol .....	47	19
Tetrachloroethylene .....	164	52
Tetrachloromethane .....	380	142
Toluene .....	74	28
Tribromomethane .....	794	196
Trichloromethane .....	325	111

**Table 6**  
**PSES and PSNS For Priority Pollutants**

Pollutant	(Micrograms per liter ( $\mu\text{g/l}$ ))	
	Daily maximum may not exceed	Monthly average may not exceed
1,1-Dichloroethylene .....	60	22
1,1,1-Trichloroethane .....	59	22
1,2-trans-Dichloroethylene .....	66	25
1,2-Dichlorobenzene .....	794	196
1,2-Dichloropropane .....	794	196
1,2-Dichloroethane .....	574	180
1,3-Dichloropropene .....	794	196
1,4-Dichlorobenzene .....	380	142
Benzene .....	134	57
Bromodichloromethane .....	380	142
Bromomethane .....	380	142
Chlorobenzene .....	380	142
Chloromethane .....	295	110
Cyanide (Total) .....	640	220
Dibromochloromethane .....	794	196
Dichloromethane .....	170	36
Ethylbenzene .....	380	142
Lead (Total) .....	690	320
Naphthalene .....	47	19
Tetrachloroethylene .....	164	52
Tetrachloromethane .....	380	142
Toluene .....	74	28
Tribromomethane .....	794	196
Trichloromethane .....	325	111

**Table 7**  
**Test Methods For Pesticide Active Ingredients**

EPA Survey Code	Pesticide Name	CAS. No.	EPA Analytical Method No.(s)
8	Triadimefon	43121-43-3	507/633/525.1/1656
12	Dichlorvos	00062-73-7	1657/507/622/525.1
16	2,4-D; 2,4-D Salts and Esters (2,4-Dichlorophenoxyacetic acid)	00094-75-7	1658/515.1/615/515.2/555
17	2,4-DB; 2,4-DB Salts and Esters (2,4-Dichlorophenoxybutyric acid)	00094-82-6	1658/515.1/615/515.2/555
22	Mevinphos	07786-34-7	1657/507/622/525.1
25	Cyanazine	21725-46-2	629/507
26	Propachlor	01918-16-7	1656/508/608.1/525.1
27	MCPA; MCPA Salts and Esters (2-Methyl-4-chlorophenoxy-acetic acid)	0094-74-6	1658/615/555
30	Dichlorprop; Dichlorprop Salts and Esters (2-(2,4-Dichlorophenoxy) propionic acid)	00120-36-5	1658/515.1/615/515.2/555
31	MCPP; MCPP Salts and Esters (2-(2-Methyl-4-chlorophenoxy) propionic acid)	00093-65-2	1658/615/555
35	TCMTB (2-(Thiocyanomethylthio) benzothiazole)	21564-17-0	637
39	Pronamide	23950-58-5	525.1/507/633.1
41	Propanil	00709-98-8	632.1/1656
45	Metribuzin	21087-64-9	507/633/525.1/1656
52	Acephate	30560-19-1	1656/1657
53	Acifluorfen	50594-66-6	515.1/515.2/555
54	Alachlor	15972-60-8	505/507/645/525.1/1656
55	Aldicarb	00116-06-3	531.1
58	Ametryn	00834-12-8	507/619/525.1
60	Atrazine	01912-24-9	505/507/619/525.1/1656
62	Benomyl	17804-35-2	631
68	Bromacil; Bromacil Salts and Esters	00314-40-9	507/633/525.1/1656
69	Bromoxynil	01689-84-5	1625/1661
69	Bromoxynil octanoate	01689-99-2	1656
70	Butachlor	23184-66-9	507/645/525.1/1656
73	Captafol	02425-06-1	1656
75	Carbaryl (Sevin)	00063-25-2	531.1/632/553
76	Carbofuran	01563-66-2	531.1/632
80	Chloroneb	02675-77-6	1656/508/608.1/525.1
82	Chlorothalonil	01897-45-6	508/608.2/525.1/1656
84	Stirofos	00961-11-5	1657/507/622/525.1
86	Chlorpyrifos	02921-88-2	1657/508/622

EPA Survey Code	Pesticide Name	CAS. No.	EPA Analytical Method No.(s)
90	Fenvalerate	51630-58-1	1660
103	Diazinon	00333-41-5	1657/507/614/622/525.1
107	Parathion methyl	00298-00-0	1657/614/622
110	DCPA (Dimethyl 2,3,5,6-tetrachloroterephthalate)	01861-32-1	508/608.2/525.1/515.1 515.2/1656
112	Dinoseb	00088-85-7	1658/515.1/615/515.2/555
113	Dioxathion	00078-34-2	657/614.1
118	Nabonate (Disodium cyanodithiomidocarbonate)	00138-93-2	630.1
119	Diuron	00330-54-1	632/553
123	Endothal	00145-73-3	548/548.1
124	Endrin	00072-20-8	1656/505/508/608/617/525.1
125	Ethalfuralin	55283-68-6	<sup>1</sup> 1656/ <sup>1</sup> 627
126	Ethion	00563-12-2	1657/614/614.1
127	Ethoprop	13194-48-4	1657/507/622/525.1
132	Fenarimol	60168-88-9	507/633.1/525.1/1656
133	Fenthion	00055-38-9	1657/622
138	Glyphosate (N-(Phosphonomethyl) glycine)	01071-83-6	547
140	Heptachlor	00076-44-8	1656/505/508/608/617/525.1
144	Isopropalin	33820-53-0	1656/627
148	Linuron	00330-55-2	553/632
150	Malathion	00121-75-5	1657/614
154	Methamidophos	10265-92-6	1657
156	Methomyl	16752-77-5	531.1/632
158	Methoxychlor	00072-43-5	1656/505/508/608.2/617/525.1
172	Nabam	00142-59-6	630/630.1
173	Naled	00300-76-5	1657/622
175	Norflurazon	27314-13-2	507/645/525.1/1656
178	Benfluralin	01861-40-1	<sup>1</sup> 1656/ <sup>1</sup> 627
182	Fensulfothion	00115-90-2	1657/622
183	Disulfoton	00298-04-4	1657/507/614/622/525.1
185	Phosmet	00732-11-6	1657/622.1
186	Azinphos Methyl	00086-50-0	1657/614/622
192	Organo-tin pesticides	12379-54-3	Ind-01/200.7/200.9
197	Bolstar	35400-43-2	1657/622
203	Parathion	00056-38-2	1657/614
204	Pendimethalin	40487-42-1	1656
205	Pentachloronitrobenzene	00082-68-8	1656/608.1/617

EPA Survey Code	Pesticide Name	CAS. No.	EPA Analytical Method No.(s)
206	Pentachlorophenol	00087-86-5	625/1625/515.2/555 515.1/525.1
208	Permethrin	52645-53-1	608.2/508/525.1/1656/1660
212	Phorate	00298-02-2	1657/622
218	Busan 85 (Potassium dimethyldithiocarbamate)	00128-03-0	630/630.1
219	Busan 40 (Potassium N-hydroxy-methyl-N-methyldithiocarbamate)	51026-28-9	630/630.1
220	KN Methyl (Potassium N-methyldithiocarbamate)	00137-41-7	630/630.1
223	Prometon	01610-18-0	507/619/525.1
224	Prometryn	07287-19-6	507/619/525.1
226	Propazine	00139-40-2	507/619/525.1/1656
230	Pyrethrin I	00121-21-1	1660
232	Pyrethrin II	00121-29-9	1660
236	DEF (S,S,S-Tributylphosphorotrithioate)	00078-48-8	1657
239	Simazine	00122-34-9	505/507/619/525.1/1656
241	Carbam-S (Sodium dimethyldithiocarbamate)	00128-04-1	630/630.1
243	Vapam (Sodium methyldithiocarbamate)	00137-42-8	630/630.1
252	Tebuthiuron	34014-18-1	507/525.1
254	Terbacil	05902-51-2	507/633/525.1/1656
255	Terbufos	13071-79-9	1657/507/614.1/525.1
256	Terbutylazine	05915-41-3	619/1656
257	Terbutryn	00886-50-0	507/619/525.1
259	Dazomet	00533-74-4	630/630.1/1659
262	Toxaphene	08001-35-2	1656/505/508/608/617/525.1
263	Merphos (Tributyl phosphorotrithioate)	00150-50-5	1657/507/525.1/622
264	Trifluralin	01582-09-8	1656/508/617/627/525.1
268	Ziram (Zinc dimethyldithiocarbamate)	00137-30-4	630/630.1

<sup>1</sup>Monitor and report as total Trifluralin.

Note: The Wisconsin administrative code corresponds to the code of federal regulations according to the following table:

State Code	Code of Federal Regulations
s. NR 205.03	40 CFR 401.11
s. NR 205.04	40 CFR 401.11
ch. NR 211	40 CFR Part 403
s. NR 211.03	40 CFR 403.3
s. NR 211.13	40 CFR 403.7
s. NR 215.03	40 CFR Part 423, Appendix A
ch. NR 219	40 CFR Part 136
ch. NR 233	40 CFR Part 455

