Appendix E. Minimum Analytical Levels to Meet the Requirements of the Texas Pollutant Discharge Elimination System Program

This table provides the pollutant minimum analytical levels (MALs) for Texas Pollutant Discharge Elimination System (TPDES) permit application screening. It includes the pollutants in 30 Texas Administrative Code §307.6 of the *Texas Surface Water Quality Standards* (TSWQS), all 126 priority pollutants, and those pollutants listed in 40 Code of Federal Regulations (CFR) Part 122, Appendix D, Table 5.

Suggested analytical methods have traditionally been analytical methods in:

- 40 CFR Part 136, as amended, or
- EPA-published documents pertaining to wastewater matrices, or
- methods developed and published by the Texas Commission on Environmental Quality (TCEQ) or other agencies that govern wastewater.

Applicants and permittees may use any analytical method approved in 40 CFR Part 136 that is sufficiently sensitive to demonstrate compliance with permit application screening requirements or numeric permit effluent limits (mass and concentration). By establishing MALs, the TCEQ is not requiring use of the corresponding analytical test method, nor is the TCEQ requiring analytical results to be submitted for the control samples run to achieve the MAL.

The TCEQ is also not requiring the use of any specific analytical technology or practice over others; it is only noting that the selected 40 CFR Part 136-approved method is sufficiently sensitive in accordance with 40 CFR §122.21(e)(3). In a situation where no EPA-approved methods exist in 40 CFR Part 136 *and* the TCEQ has not required the use of a specific non-EPA-approved analytical method in the existing permit, the permittee may select a suitable non-EPA-approved analytical method and provide a description of the analytical method as allowed by 40 CFR §122.21(e)(3)(ii). In this situation, the permittee or applicant will need to select a method from another source of available analytical methods (e.g., Standard Methods for the Examination of Water and Wastewater) to measure that pollutant in non-potable water matrix.

The TCEQ is also not requiring that labs achieve the MALs unless they are reporting analytical results as non-detect. An analytical result is deemed sufficiently sensitive when it is either 1) below the appropriate regulatory level for a specific discharge to determine compliance or make a regulatory decision, or 2) at the established MAL defined in Table 1 of this Appendix for the respective analyte. When the MAL is below the appropriate regulatory level for a specific discharge, the level of detection needs to be below the appropriate regulatory level specified but does not necessarily have to meet the MAL established in Table 1. In this situation, any 40 CFR 136-approved test method that will achieve a level of detection below the appropriate regulatory level may be used. When the appropriate regulatory level for a specific discharge is *below* the MAL established in Table 1, it is critical for the analytical data to meet the MAL in order for the TCEQ to consider the result as a non-detect. In this situation, any 40 CFR Part 136-approved test method that will achieve a level of detection below the MAL established in Table 1 may be used. Any analytical results of non-detect to a level higher than the established MAL listed in Table 1 or higher than the appropriate regulatory level will be treated as a hard value by the TCEQ.

In addition to TPDES permit application screenings, the MALs established in Table 1 may be used for TPDES permit reporting requirements, which includes monitoring associated with approved pretreatment programs.

DRAFT

How the MALs Were Determined

The MALs provided are based on the minimum levels established in the analytical method specified in the "MAL Source" column, unless otherwise indicated. When a minimum level was not given in the analytical method, the MAL in Table 1 was calculated by multiplying the method detection limit (MDL) published in the analytical method by a factor of 3.18 (as described in *Protocol for Review and Validation of New Methods for Regulated Organic and Inorganic Analytes in Wastewater Under EPA's Alternate Test Procedure Program*, EPA 821-B-18-001) and rounded as appropriate. For pollutants without either an MDL or minimum level provided in the method, no MAL is listed in Table 1, though the method may be listed for guidance.

Choosing the Appropriate MALs

For the purposes of the TPDES program, when more than one test procedure is approved under 40 CFR §136.1(c) for analysis of a pollutant or pollutant parameter, the test procedure selected must be sufficiently sensitive as defined in 40 CFR §§122.21(e)(3) and 122.44(i)(1)(iv). For pollutants with TSWQS criteria, the MAL source is the analytical method with a minimum level at or below the applicable water quality criterion as per 40 CFR §122.21(e)(3)(i)(A). For pollutants with 40 CFR Part 136-approved methods but no published minimum levels at or below the applicable criteria, the MAL source is the analytical method with the lowest minimum level as per 40 CFR §122.21(e)(3)(i)(C). For pollutants with water quality criteria but no minimum level or MDL provided in the analytical methods, no MAL is provided at this time and an MAL will be determined later. In this situation, any analytical results reported by applicants and permittees will be treated as hard values by the TCEQ.

In select cases when two MALs are listed, the lower MAL is derived from the analytical method with a minimum level sufficiently sensitive for the most stringent critical conditions and the higher MAL is derived from a method with a minimum level that is sufficient for more common water quality scenarios. For some pollutants, this resulted in screening values several orders of magnitude apart. Rather than establish the MAL based solely on the most stringent scenario, the TCEQ established two MALs to provide greater flexibility to applicants and permittees. Applicants and permittees may use discretion in selecting the appropriate MAL; however, the TCEQ may request resampling at the lower MAL on a case-by-case basis. For assistance in determining the appropriate MAL, please contact the Water Quality Division (512-239-4671).

For pollutants without TSWQS criteria and no method listed in 40 CFR Part 136, no MAL value or source is provided at this time.

DRAFT

Table 1. MALs for Permit Application Screening.

Pollutant	CASRN[1]	MAL (µg/L)[2]	MAL Source
Acenaphthene	83-32-9	5.7	625.1
Acenaphthylene	208-96-8	10.5	625.1
Acetaldehyde	75-07-0	50	1667[3]
Acrolein	107-02-8	2.2	603
Acrylonitrile	107-13-1	2.0	603
Aldrin	309-00-2	0.012	608.3
Allyl alcohol	107-18-6	-[4]	624.1
Allyl chloride	107-05-1	-[4]	624.1
Aluminum, total	7429-90-5	3.2	200.8, Rev. 5.4[5]
Amyl acetate	628-63-7	16	1666
Aniline	62-53-3	-[6]	625.1
Anthracene	120-12-7	5.7	625.1
Antimony, total	7440-36-0	1.5	200.8, Rev. 5.4[5]
Arsenic, total	7440-38-2	5.0	200.8, Rev. 5.4[5]
Asbestos	1332-21-4	Not Specified[7]	TBD[7]
Barium, total	7440-39-3	2.5	200.8, Rev. 5.4[5]
Benzene[8]	71-43-2	1.0 13.2	602 624.1
Benzidine	92-87-5	0.3	605
Benzo(*a*)anthracene	56-55-3	0.04	610
Benzo(*a*)pyrene	50-32-8	0.1	610
Benzo(*b*)fluoranthene	205-99-2	14.4	625.1
Benzo(*g,h,i*)perylene	191-24-2	12.3	625.1
Benzo(*k*)fluoranthene	207-08-9	7.5	625.1
Benzonitrile	100-47-0	Not Specified[7]	TBD[7]
Benzyl chloride	100-44-7	Not Specified[7]	TBD[7]

[1] Chemical Abstracts Service Registry Number (CASRN).
[2] MAL units are in micrograms per liter (µg/L) unless otherwise noted.
[3] The MAL is based on the value outlined in the 2010 IPs for Method 1667.
[4] This pollutant is approved in EPA Method 624.1; however, there is no MDL or minimum level provided for this pollutant in the method.
[5] EPA Methods 200.8 and 200.9 are approved for use in the NPDES program (40 CFR Part 136, revised March 12, 2007).
[6] This pollutant is approved in EPA Method 625.1, however, there is no MDL or minimum level determined for this pollutant in the method.
[7] To be determined (TBD). There is no approved method listed in 40 CFR Part 136 for this pollutant. TCEQ has requested EPA to provide suggested methods.
[8] The permittee may be required to use a more sensitive method in cases of water quality concerns.

DRAFT

Pollutant	CASRN[1]	MAL (µg/L)[2]	MAL Source
Beryllium, total	7440-41-7	1.0	200.8, Rev. 5.4 [5]
Bis(2-chloroethoxy)methane	111-91-1	15.9	625.1
Bis(2-Chloro-1-methylethyl) ether [2,2'-oxybis(1-chloropropane)] [9]	108-60-1	17.1	625.1
Bis(2-chloroethyl)ether[8]	111-44-4	1.0 17.1	611 625.1
Bis(2-chloroisopropyl)ether [2,2'-oxybis(2-chloropropane)] [9]	39638-32-9	Not specified[7]	TBD[7]
Bis(chloromethyl)ether	542-88-1	Not specified[7]	TBD[7]
Bis(2-ethylhexyl)phthalate [Di(2-ethylhexyl)phthalate]	117-81-7	7.5	625.1
Boron, total [10]	7440-42-8	10	200.7, Rev. 4.4
Bromide	—	32	300.0, Rev. 2.1 or 300.1, Rev. 1.0
Bromodichloromethane [Dichlorobromomethane]	75-27-4	6.6	624.1
Bromoform	75-25-2	14.1	624.1
4-Bromophenyl phenyl ether	101-55-3	5.7	625.1
Butyl acetate	540-88-5	5.0	1666[11]
n-Butylamine	109-73-9	Not Specified[7]	TBD[7]
sec-Butylamine	13952-84-6	Not Specified[7]	TBD[7]
tert-Butylamine	75-64-9	Not Specified[7]	TBD[7]
Butylbenzyl phthalate	85-68-7	7.5	625.1
Cadmium, total	7440-43-9	2.0	200.8, Rev. 5.4[5]
Captan	133-06-2	0.4	SM6630B
Carbaryl (Sevin)	63-25-2	0.1	632
Carbazole	86-74-8	64	1625[12]
Carbofuran	1563-66-2	10	632

[9] CASRN 108-60-1 has been incorrectly paired with "bis(2-chloroisopropyl)ether" historically in the literature. The correct pollutant of concern is bis(2-chloro-1-methylethyl) ether, however, bis(2-chloroisopropyl)ether is included in this table as the process to correct this error throughout the applicable 40 CFR parts is ongoing.

[10] The application screening level for boron is 100 µg/L. Boron is a toxic pollutant that does not have numerical criteria in the TSWQS and is of potential concern only at concentrations substantially higher than the MAL.

[11] The compound in EPA Method 1666 is n-butyl acetate (CASN 123-86-4).

[12] EPA Methods 624 and 625 may be utilized in lieu of Methods 1624 and 1625, respectively, as provided in the protocol for Transfer of an Analyte Between Methods described in *Analytical Method Guidance for the Pharmaceutical Manufacturing Point Source Category, U. S. Environmental Protection Agency, EPA 821-B-00-003, August 1999.* See Appendix G.

Pollutant	CASRN[1]	MAL (µg/L)[2]	MAL Source
Carbon disulfide	75-15-0	-[13]	1624C[12]
Carbon tetrachloride[8]	56-23-5	0.40 8.4	601 624.1
Chlordane	57-74-9	0.042	608.3
Chlorine	7782-50-5	32	4500-Cl E or G
Chlorobenzene	108-90-7	18	624.1
Chlorodibromomethane (Dibromochloromethane)	124-48-1	9.3	624.1
Chloroethane	75-00-3	50	1624B
2-chloroethylvinyl ether	110-75-8	10	1624B
Chloroform	67-66-3	4.8	624.1
2-Chloronaphthalene	91-58-7	5.7	625.1
2-Chlorophenol	95-57-8	9.9	625.1
4-Chlorophenyl phenyl ether	7005-72-3	12.6	625.1
Chlorpyrifos	2921-88-2	0.02	1657
Chromium, total	7440-47-3	3.0	200.8, Rev. 5.4[5]
Chromium, hexavalent	18540-29-9	4.5	218.6, Rev. 3.3
Chromium, trivalent	16065-83-1	-	Trivalent chromium (Cr) determined by subtracting hexavalent Cr from total Cr.
Chrysene	218-01-9	7.5	625.1
Cobalt, total[14]	7440-48-4	0.30	200.8, Rev. 5.4[5]
Copper, total	7440-50-8	2.0	200.8, Rev. 5.4[5]
Coumaphos	56-72-4	0.1	1657
Cresols (all isomers)	1319-77-3	-[6]	625.1
m-Cresol	108-39-4	-[6]	625.1
o-Cresol	95-48-7	-[6]	625.1
p-chloro-m-cresol [4-chloro-3-methylphenol]	59-50-7	9.0	625.1
p-Cresol [4-Methylphenol]	106-44-5	-[6]	625.1
Crotonaldehyde	4170-30-3	-[4]	624.1

[13] This pollutant is approved in EPA Method 1624, however, there is no MDL for this pollutant provided in the method.
[14] The application screening level for cobalt is 1,500 µg/L. Cobalt is a toxic pollutant that does not have numerical criteria in the TSWQS and is of potential concern only at concentrations substantially higher than the MAL.

Pollutant	CASRN[1]	MAL (µg/L)[2]	MAL Source
Cyanide, total	57-12-5	16	335.4 Rev 1.0
Cyanide, free	57-12-5	2.0	OIA-1667-09
Cyanide, amenable[15]	57-12-5	-[16]	4500-CN G-2011
Cyanide, available[8]	57-12-5	2.0 10	OIA-1677[17] 4500-CN G
Cyclohexane	110-82-7	5.0	1666
4,4'-DDD	72-54-8	0.033	608.3
4,4'-DDE	72-55-9	0.012	608.3
4,4'-DDT	50-29-3	0.036	608.3
2,4-D	94-75-7	4.0	615
Danitol [Fenpropathrin]	39515-41-8	-[7]	TBD[18]
n-Decane	124-18-5	Not specified[7]	TBD[7]
Demeton	8065-48-3	0.06-0.07[19]	1657
Diazinon	333-41-5	0.04	614
Dibenzo(a,h)anthracene	53-70-3	7.5	625.1
1,2-Dibromoethane	106-93-4	-[4]	624.1
Dicamba	1918-00-9	0.4	1658
Dichlobenil	1194-65-6	Not Specified[7]	TBD[7]
Dichlone	117-80-6	-[20]	1656
m-Dichlorobenzene [1,3-Dichlorobenzene]	541-73-1	1.0	601
o-Dichlorobenzene [1,2-Dichlorobenzene]	95-50-1	1.0	601
p-Dichlorobenzene [1,4-Dichlorobenzene]	106-46-7	1.0	601
3,3'-Dichlorobenzidine[8]	91-94-1	0.5 49.5	605 625.1
1,1- Dichloroethane	75-34-3	14.1	624.1
1,2-Dichloroethane[8]	107-06-2	0.1 8.4	601 624.1

[15] Method-defined analyte.
[16] This pollutant is approved in the method indicated, however, there is no MDL or minimum level provided for this pollutant in the method.
[17] The EPA has published Method OIA-1677 for the analysis of available cyanide as a method that tends to overcome matrix interferences present with other methods and includes a lower MAL. Permit writers may determine the appropriate method for permittees on a case-by-case basis in situations where a lower MAL is needed for application screening, permit compliance, or eliminating interferences and matrix problems.
[18] EPA procedure not approved. TCEQ will not require applicants or permittees to analyze at this time.
[19] The appropriate MAL for this method is determined by how the sample is prepared. Refer to the method.
[20] This pollutant is approved in EPA Method 1656; however, there is no MDL provided for this pollutant in the method.

Pollutant	CASRN[1]	MAL (µg/L)[2]	MAL Source
1,1-Dichloroethene[8] [1,1-Dichloroethylene]	75-35-4	0.5 8.4	601 624.1
Dichloromethane[8] [Methylene Chloride]	75-09-2	1.0 8.4	601 624.1
2,4-Dichlorophenol	120-83-2	8.1	625.1
1,2-Dichloropropane[8]	78-87-5	0.2 18	601 624.1
1,3-Dichloropropene	542-75-6	1.1[21]	601
2,2-Dichloropropionic acid [Dalapon]	75-99-0	18	615
Dichlorvos	62-73-7	0.02	1657
Dicofol [Kelthane]	115-32-2	-[22]	608.3
Dieldrin	60-57-1	0.006	608.3
Diethyl amine	109-89-7	159 mg/L	1671
Diethyl phthalate	84-66-2	5.7	625.1
Dimethyl amine	124-40-3	159 mg/L	1671
2,4-Dimethylphenol	105-67-9	8.1	625.1
Dimethyl phthalate	131-11-3	4.8	625.1
Di-n-butyl phthalate	84-74-2	7.5	625.1
Dinitrobenzene	25154-54-5	-[6]	625.1
4,6-Dinitro-o-cresol [2-Methyl-4,6-dinitrophenol]	534-52-1	72	625.1
2,4-Dinitrophenol	51-28-5	126	625.1
2,4-Dinitrotoluene	121-14-2	17.1	625.1
2,6-Dinitrotoluene	606-20-2	5.7	625.1
Di-n-octyl phthalate	117-84-0	7.5	625.1
Dioxins/Furans [TCDD Equivalents][23]			
2,3,7,8-TCDD	1746-01-6	10 pg/L[24]	1613B
1,2,3,7,8-PeCDD	40321-76-4	50 pg/L	1613B
2,3,7,8-HxCDDs			
1,2,3,4,7,8-HxCDD	39227-28-6	50 pg/L	1613B
1,2,3,6,7,8-HxCDD	57653-85-7	50 pg/L	1613B

[21] The MAL provided in EPA Method 601 is for the *cis*-1,3-dichloropropene isomer (CASRN 10061-01-5).
[22] This pollutant is approved in EPA Method 608.3; however, there is no MDL provided for this pollutant in the method.
[23] The minimum level for each pollutant in EPA Method 1613B is defined as the level at which the entire analytical system must give a recognizable signal and acceptable calibration point. It is equivalent to the concentration of the lowest calibration standard, assuming all method-specified sample weights, volumes, and cleanup procedures have been employed.
[24] Picograms per liter (pg/L) or parts per quadrillion (ppq).

Pollutant	CASRN[1]	MAL (µg/L)[2]	MAL Source
1,2,3,7,8,9-HxCDD	19408-74-3	50 pg/L	1613B
1,2,3,4,6,7,8-HpCDD	35822-46-9	50 pg/L	1613B
OCDD	3268-87-9	100 pg/L	1613B
2,3,7,8-TCDF	51207-31-9	10 pg/L	1613B
1,2,3,7,8-PeCDF	57117-41-6	50 pg/L	1613B
2,3,4,7,8-PeCDF	57117-31-4	50 pg/L	1613B
2,3,7,8-HxCDFs			
1,2,3,4,7,8-HxCDF	70648-26-9	50 pg/L	1613B
1,2,3,6,7,8-HxCDF	57117-44-9	50 pg/L	1613B
1,2,3,7,8,9-HxCDF	72918-21-9	50 pg/L	1613B
2,3,4,6,7,8-HxCDF	60851-34-5	50 pg/L	1613B
2,3,4,7,8-HpCDFs			
1,2,3,4,6,7,8-HpCDF	67562-39-4	50 pg/L	1613B
1,2,3,4,7,8,9-HpCDF	55673-89-7	50 pg/L	1613B
OCDF	39001-02-0	100 pg/L	1613B
1,2-Diphenylhydrazine (as Azobenzene)	122-66-7	64	1625
Diquat	2764-72-9	Not Specified[7]	TBD[7]
Disulfoton	298-04-4	0.1	1657
Diuron	330-54-1	0.05	632
Endosulfan I (alpha)	959-98-8	0.042	608.3
Endosulfan II (beta)	33213-65-9	0.012	608.3
Endosulfan sulfate	1031-07-8	0.198	608.3
Endrin	72-20-8	0.02	1656
Endrin aldehyde	7421-93-4	0.07	608.3
Epichlorohydrin	106-89-8	Not Specified[7]	TBD[7]
Ethion	563-12-2	0.05	1657
Ethylbenzene	100-41-4	21.6	624.1
Ethylenediamine	107-15-3	Not specified[7]	TBD[7]
Ethylene dibromide	106-93-4	Not specified[7]	TBD[7]
Ethylene glycol	107-21-1	Not specified[7]	TBD[7]
Formaldehyde	50-00-0	159	1667
Fluoranthene	206-44-0	6.6	625.1
Fluorene	86-73-7	5.7	625.1
Fluoride	16984-48-8	32	300.0, Rev. 2.1

DRAFT

Pollutant	CASRN[1]	MAL (µg/L)[2]	MAL Source
Furfural	98-01-1	50 mg/L	1667
Guthion [Azinphos Methyl]	86-50-0	0.03	1657
Heptachlor	76-44-8	0.009	608.3
Heptachlor epoxide	1024-57-3	0.01	617
Hexachlorobenzene	118-74-1	0.16	612
Hexachlorobutadiene	87-68-3	1.1	612
alpha-Hexachlorocyclohexane [alpha-BHC]	319-84-6	0.009	608.3
beta-Hexachlorocyclohexane [beta-BHC]	319-85-7	0.018	608.3
gamma-Hexachlorocyclohexane [Lindane]	58-89-9	0.012	608.3
delta-Hexachlorocyclohexane [delta-BHC]	319-86-8	0.027	608.3
Hexachlorocyclopentadiene	77-47-4	1.5	612
Hexachloroethane	67-72-1	0.1 4.8	612 625.1
Hexachlorophene	70-30-4	4.0	604.1[25]
Indeno(1,2,3-cd)pyrene	193-39-5	11.1	625.1
Iron, total[26]	7439-89-6	95	200.7, Rev. 4.4
Isophorone	78-59-1	6.6	625.1
Isoprene	78-79-5	Not Specified[7]	TBD[7]
Isopropanolamine dodecylbenzenesulfonate	42504-46-1	Not Specified[7]	TBD[7]
4,4'-Isopropylidenediphenol [Bisphenol A]	80-05-7	1.0	ASTM 7065-11
Kepone	143-50-0	0.3	1656
Lead, total	7439-92-1	2.0	200.8, Rev. 5.4[5]
Malathion	121-75-5	0.04	1657
Magnesium, total	7439-95-4	64	200.7, Rev. 4.4
Manganese, total[27]	7439-96-5	0.32	200.8, Rev. 5.4[5]
Mercaptodimethur [Methiocarb]	2032-65-7	0.06	632

[25] *EPA Methods for the Determination of Nonconventional Pesticides in Municipal and Industrial Wastewater*, U.S. Environmental Protection Agency, EPA-821-R-93-010-A & B, August 1993.
[26] The application screening level for iron is 300 µg/L. Iron is a toxic pollutant that does not have numerical criteria in the TSWQS and is of potential concern only at concentrations substantially higher than the MAL.
[27] The application screening level for manganese is 50 µg/L. Manganese is a toxic pollutant that does not have numerical criteria in the TSWQS and is of potential concern only at concentrations substantially higher than the MAL.

Pollutant	CASRN[1]	MAL (µg/L)[2]	MAL Source
Mercury, total[8, 28]	7439-97-6	0.005[29] 0.0005[30]	245.7 1631E[31]
Methoxychlor[32]	72-43-5	0.6	617
Methyl bromide [Bromomethane]	74-83-9	4.0	601
Methyl chloride [Chloromethane]	74-87-3	8.4	624.1
Methyl ethyl ketone	78-93-3	159	1624B[12]
Methyl mercaptan	74-93-1	Not specified[7]	TBD[7]
Methyl methacrylate	80-62-6	-[4]	624.1
Methyl parathion	298-00-0	0.06	1657
Methyl tert-butyl ether [MTBE]	1634-04-4	-[4]	624.1
Mevinphos	7786-34-7	0.24	1657
Mexacarbate	315-18-4	2.0	632
Mirex	2385-85-5	0.02	SM 6630
Molybdenum, total[33]	7439-98-7	1.0	200.8[5], Rev 5.4
Monoethyl amine	75-04-7	Not Specified[7]	TBD[7]
Monomethylamine	74-89-5	Not specified[7]	TBD[7]
Naled	300-76-5	0.054	1657
Naphthalene	91-20-3	4.8	625.1
Napthenic acid	1338-24-5	Not specified[7]	TBD[7]
Nickel, total	7440-02-0	2.0	200.8[5], Rev 5.4
Nitrate-nitrogen	14797-55-8	6.4	300.0, Rev 2.1
Nitrobenzene	98-95-3	5.7	625.1
2-Nitrophenol	88-75-5	10.8	625.1

[28] Although EPA Methods 245.1, Revision 3.0 and 245.2 are included as approved analytical methods for mercury in 40 CFR Part 136, the Director of the EPA Office of Wastewater Management published a national policy memorandum, dated August 23, 2007, clarifying and explaining that based on the existing regulatory requirements for NPDES permitting, only the most sensitive analytical methods for mercury, such as EPA Methods 1631E and 245.7, are appropriate in most instances for use in deciding whether to set a permit limit for mercury and for sampling and analysis of mercury pursuant to monitoring requirements within a permit.

[29] The MAL is based on the minimum quantification level (MQL) published in the EPA national policy memorandum dated August 23, 2007 and in EPA Method 245.7 published in February 2005.

[30] The MAL is based on the MQL published in the EPA national policy memorandum dated August 23, 2007 and in EPA Method 1631E published in August 2002.

[31] *Method 1631, Revision E. Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry*, U.S. Environmental Protection Agency, Office of Water, EPA 821-R-02-019, August 2002.

[32] Except as provided in 40 CFR §136.5, pesticide manufacturers must determine the discharge parameter values required under the Clean Water Act by one of the methods described in Table 1G of 40 CFR §136.3(a). See 40 CFR §455.50.

[33] The application screening level for molybdenum is 500 µg/L. Molybdenum is a toxic pollutant that does not have numerical criteria in the TSWQS and is of potential concern only at concentrations substantially higher than the MAL.

Pollutant	CASRN[1]	MAL (µg/L)[2]	MAL Source
4-Nitrophenol	100-02-7	7.2	625.1
N-Nitrosodiethylamine	55-18-5	-[6]	625.1
N-Nitrosodimethylamine	62-75-9	50	1625B[12]
N-Nitroso-di-n-butylamine	924-16-3	-[4]	624.1
N-Nitroso-di-n-propylamine	621-64-7	64	1625B[12]
N-Nitrosodiphenylamine	86-30-3	64	1625B[12]
Nitrotoluene	1321-12-6	Not specified[7]	TBD[7]
para-Nonylphenol	84852-15-3	Not specified[7]	TBD[7]
Nonylphenol	25154-52-3	3.0	D7065-11
n-Octadecane	593-45-3	-[6]	625.1
Parathion (ethyl)	56-38-2	0.032	1657
Pentachlorobenzene	608-93-5	-[6]	625.1
Pentachlorophenol	87-86-5	10.8	625.1
Phenanthrene	85-01-8	2.0	610
Phenol	108-95-2	4.5	625.1
Phenolics, total (4-AAP)	-[34]	-[35]	420.4
p-Phenolsulfonate	127-82-2	Not specified[7]	TBD[7]
Phosgene	75-44-5	-	Degrades in water[18]
Polychlorinated biphenyls (PCBs)	1336-36-3	0.0005	1668B[36]
PCB-77	32598-13-3	0.0005	1668B[36]
PCB-81	70362-50-4	0.0005	1668B[36]
PCB-126	57465-28-8	0.0005	1668B[36]
PCB-169	32774-16-6	0.0005	1668B[36]
PCB-1016	12674-11-2	-[22]	608.3
PCB-1221	11104-28-2	-[22]	608.3
PCB-1232	11141-16-5	-[22]	608.3
PCB-1242	53469-21-9	0.195	608.3
PCB-1248	12672-29-6	-[22]	608.3

[34] Method-defined analyte listed as parameter #48 in 40 CFR §136.3; Table IB. Specific alternative names listed in applicable federal regulations include, but are not limited to, the following: phenolic compounds, phenolic compounds (4-AAP), phenols, phenols (4-AAP), total phenol, total phenols, total phenols (4-AAP), total phenolic compounds, total phenolics, total phenolics (4-AAP method), and total recoverable phenolics.

[35] This pollutant is approved in EPA Method 420.4, however, there is no MDL or minimum level provided for this pollutant in the method.

[36] EPA Method 1668B is not currently listed as an approved method in 40 CFR Part 136.

Pollutant	CASRN[1]	MAL (µg/L)[2]	MAL Source
PCB-1254	11097-69-1	-[22]	608.3
PCB-1260	11096-82-5	-[22]	608.3
Propargite	2312-35-8	Not Specified[7]	TBD[7]
Propylene oxide	75-56-9	Not Specified[7]	TBD[7]
Pyrene	129-00-0	5.7	625.1
Pyrethrin I	121-21-1	3.1	1660
Pyrethrin II	121-29-9	3.3	1660
Pyridine	110-86-1	-[6]	625.1
Quinoline	91-22-5	Not Specified[7]	TBD[7]
Resorcinol	108-46-3	Not Specified[7]	TBD[7]
Selenium, total	7782-49-2	24	200.8[5], Rev 5.4
Silver, total	7440-22-4	0.5	200.8[5], Rev. 5.4
Strontium	7440-24-6	2.5	200.7, Rev. 4.4
Strychnine	57-24-9	Not Specified[7]	TBD[7]
Styrene	100-42-5	32	1625B[12]
1,2,4,5-Tetrachlorobenzene	95-94-3	-[6]	625.1
1,1,2,2-Tetrachloroethane	79-34-5	0.1	601
Tetrachloroethene [Tetrachloroethylene]	127-18-4	0.1	601
Thallium, total	7440-28-0	1.0	200.8[5], Rev. 5.4
Tin, total	7440-31-5	5.4	200.9, Rev. 2.2
Titanium, total[37]	7440-32-6	30	283.2
Toluene	108-88-3	18	624.1
Toxaphene	8001-35-2	0.72	608.3
2,4,5-T [Fortex]	93-76-5	1.0	615
2,4,5-TP [Silvex]	93-72-1	1.0	615
1,2-Trans-dichloroethene [Trans-1,2-dichloroethylene]	156-60-5	4.8	624.1
Tributyltin [TBT]	688-73-3	Not Specified[7]	TBD[7]
1,2,4-Trichlorobenzene	120-82-1	5.7	625.1
1,1,1-Trichloroethane	71-55-6	11.4	624.1
1,1,2-Trichloroethane[8]	79-00-5	0.1 15	601 624.1

[37] The application screening level for titanium is 40 µg/L. Titanium is a toxic pollutant that does not have numerical criteria in the TSWQS and is of potential concern only at concentrations substantially higher than the MAL.

Pollutant	CASRN[1]	MAL (µg/L)[2]	MAL Source
Trichloroethene[8] [Trichloroethylene]	79-01-6	0.4 5.7	601 624.1
Trichlorfon	52-68-6	0.45	1657
2,4,5-Trichlorophenol	95-95-4	32	1625B[12]
2,4,6-Trichlorophenol	88-06-2	8.1	625.1
Triethanolmine dodecylbenzenesulfonate	27323-41-7	Not specified[7]	TBD[7]
Triethylamine	121-44-8	50 mg/L	1671
TTHM [Total Trihalomethanes] Bromodichloromethane Dibromochloromethane Tribromomethane [Bromoform] Trichloromethane [Chloroform]	75-27-4 124-48-1 75-25-2 67-66-3	6.6 9.3 14.1 4.8	624.1
Trimethylamine	75-50-3	Not specified[7]	TBD[7]
Uranium, total	7440-61-1	0.5	200.8[5], Rev. 5.4
Vanadium, total	7440-62-2	8.0	200.8[5], Rev. 5.4
Vinyl acetate	108-05-4	-[13]	1624C[12]
Vinyl chloride	75-01-4	0.6	601
Xylenes, total	1330-20-7	10	1624C[12]
Xylenol	1300-71-6	Not specified[7]	TBD[7]
Zinc, total	7440-66-6	6.0	200.8[5], Rev. 5.4
Zirconium	7440-67-7	318	1620

DRAFT