LOW LEVEL DATA REPORTING REQUIREMENT

Reporting Data Down to the LOD

Certified and registered laboratories are required to report data down to their limit of detection (LOD) for many analytes that have a health-based environmental standard in chapters NR 105, 140, 720 and 809, Wis. Adm. Code, below or near the analytical limit of detection. This requirement became effective January 1, 1997. Table 6.1 contains the list of compounds of concern at low levels. Laboratories are required to report all data for these substances down to their limit of detection. All results greater than the LOD, yet less than the LOQ, must be reported and appropriately qualified (consult ch. NR 149, Wis. Adm. Code, for definitions of the LOD and LOQ). Be aware that some of Wisconsin's environmental programs may require that the results for all compounds to be reported down to the LOD, even if they do not appear on this list. Chapter NR 809, Wis. Adm. Code, (Drinking Water Program) requires that data be reported to the LOD for all regulated primary drinking water contaminants. Chapters NR 140, Wis. Adm. Code, (Groundwater Program) and NR 507, Wis. Adm. Code, (Landfills) require facilities to report data to the LOD for all substances. Data reporting requirements are found in many of the agency's administrative rules and can be confusing. To help eliminate some confusion, below is an abbreviated guide of when laboratories are required to report data down to the LOD:

1. If a client requests data reported down to the LOD.
2. If it is a sample for the Groundwater or Landfill Programs, then report all analytes to the LOD.
3. If it is a sample for a WPDES permit established under chapter NR 105, report data down to the LOD.
4. If it is a sample for the Drinking Water Program, then report all analytes with an MCL to the LOD.
5. If (1), (2), (3) & (4) do not apply to the sample, then report to the LOD if the substance is on the NR 149 Compounds of Concern reporting list (Table 4.9).
6. If (1), (2), (3), (4) or (5) do not apply, then it is not necessary to report to the LOD.

Knowing when to report results to the LOD is complex. However, there is a way to make it easy. A laboratory may report all data to its LOD, with the appropriate qualifiers, and be assured of meeting all program specific requirements. Laboratory clients may specify data reporting requirements that exceed those set by WDNR.

Table 6.1 - Low Level Reporting Requirement - Compounds of Concern (effective January 1, 1998)

1. INORGANICS

Metals
Antimony
Beryllium
Cadmium
Lead
Thallium
Mercury
Chromium (Hexavalent)

2. ORGANICS

Acids/Phenols
Pentachlorophenol (PCP)

Benzidines
Benzidine

Haloethers
Bis(chloromethyl)ether

Nitroaromatics
2,4-Dinitrotoluene
2,6-Dinitrotoluene

Polynuclear Aromatic Hydrocarbons
Benzo(a)pyrene

2. ORGANICS

Phthalates & Adipates
Di(2-ethylhexyl)phthalate

Nonpurgeable Chlorinated Hydrocarbons
Hexachlorobenzene

Dioxins/Furans
Dioxin

PCBs
Polychlorinated biphenyls

Chlorinated Pesticides
DDT and Metabolites
Heptachlor
Heptachlor epoxide
Lindane
Toxaphene

Carbamate Pesticides
Aldicarb

Nitrogen Pesticides
Alachlor
Dimethoate
Parathion
Trifluralin

2. ORGANICS

Volatiles
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,3-Dichloropropene (cis/trans)
Bromodichloromethane
Bromoform
Bromomethane
Chloroform
Chloromethane
Methyl tert-butyl ether (MTBE)
Methylene Chloride
Vinyl Chloride
Dibromochloropropane (DBCP)
Ethylene dibromide (EDB)

Table 6.2 Regulated Substances and Regulatory Limits

Substance	Ch. NR 140 PAL µg/L	Ch. NR 809 MCL µg/L	Ch. NR 720 RCL** mg/kg (Industrial)	Ch. NR 105 Effluent Permit Limit	Ch. NR 149 LOD Reporting Requirement
1,1,1,2-Tetrachloroethane	7*				
1,1,1-Trichloroethane	40	200		Y	
1,1,2,2-Tetrachloroethane	0.02			Y	YES
1,1,2-Trichloroethane	0.5	5		Y	YES
1,1-Dichloroethane	85				
1,1-Dichloroethylene	0.7	7		Y	
1,2,3-Trichloropropane	12*				
1,2,4,5-Tetrachlorobenzene				Y	
1,2,4-Trichlorobenzene	14	70			
1,2-Dibromo-3-chloropropane (DBCP,dibromochloropropane)	0.02	0.2			YES
1,2-Dibromoethane (EDB, ethylene dibromide, dibromoethane)	0.005	0.05			YES
1,2-Dichlorobenzene (0-dichlorobenzene)	60	600		Y	
1,2-Dichloroethane	0.5	5	0.0049	Y	
1,2-Dichloroethylene (cis)	7	70		Y	
1,2-Dichloroethylene (trans)	20	100		Y	
1,2-Dichloropropane	0.5	5			
1,2-Diphenylhydrazine				Y	
1,3-Dichlorobenzene (M-dichlorobenzene)	125			Y	
1,3-Dichloropropene (cis/trans)	0.02			Y	YES
1,4-Dichlorobenzene (p-Dichlorobenzene)	15	75		Y	
2,4,5-Trichlorophenol				Y	
2,4,5-Trichlorophenoxypropionic Acid (2,4,5-TP, silvex)	5	50			
2,4,6-Trichlorophenol				Y	
2,4-Dichlorophenol				Y	
2,4-Dichlorophenoxyacetic Acid (2,4 D)	7	70			
2,4-Dinitrotoluene	0.005			Y	YES
2,6-Dinitrotoluene	0.005				YES
3,3-Dichlorobenzidine				Y	
4,6-Dinitro-o-cresol				Y	
Acenaphthylene	0.5*				
Acetone	200				
Acrolein				Y	
Acrylonitrile				Y	
Alachlor	0.2	2		Y	YES
Aldicarb	2				YES
Aldrin				Y	
Anthracene	600*				
Antimony	1.2	6		Y	YES
Arsenic	5	50	0.039, (1.6)	Y	
Asbestos	0.7 MFL	7 MFL			
Atrazine, total chlorinated residue	0.3	3		Y	
Barium	400	2000			
Bentazon	60*				
Benzene	0.5	5	0.0055	Y	
Benzidine				Y	YES
Benzo(a)anthracene				Y	

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Substance	Ch. NR 140 PAL µg/L	Ch. NR 809 MCL µg/L	Ch. NR 720 RCL** mg/kg (Industrial)	Ch. NR 105 Effluent Permit Limit	Ch. NR 149 LOD Reporting Requirement
Benzo(a)pyrene	0.02	0.2		Y	YES
Benzo(b)fluoranthene	0.02*			Y	
Benzo(g,h,i)perylene				Y	
Benzo(k)fluoranthene				Y	
Beryllium	0.4	4		Y	YES
BHC-alpha				Y	
BHC-beta				Y	
BHC-technical grade				Y	
Bis(2-chloroethyl)ether				Y	
Bis(2-chloroisopropyl)ether				Y	
Bis(chloromethyl)ether				Y	YES
Boron	190*				
Bromodichloromethane	0.06	100 TTHM		Y	YES
Bromoform	0.44	100 TTHM		Y	YES
Bromomethane	1			Y	YES
Butylate	6.7			Y	
Cadmium	0.5	5	8, (510)	Y	YES
Carbaryl	192			Y	
Carbofuran	8	40			
Carbon Disulfide	200*				
Carbon Tetrachloride	0.5	5		Y	
Chloramben	30				
Chlordane	0.2	2		Y	
Chlorine (total residual)				Y	
Chlorobenzene (Monochlorobenzene)	20	100		Y	
Chloroethane (Ethyl chloride)	80				
Chloroform	0.6	100 TTHM		Y	YES
Chloromethane	0.3			Y	YES
Chromium	10	100	16000	Y	
Chromium (Hexavalent)			14, (200)	Y	YES
Chrysene	0.02*			Y	
Cobalt	8*				
Copper	130	1300		Y	
Cyanazine	0.1*			Y	
Cyanide	40	200		Y	
Dacthal	800				
Dalapon		200			
DDT and Metabolites				Y	YES
Di(2-ethylhexyl)adipate		400			
Di(2-ethylhexyl)phthalate (Bis(2-ethylhexyl)phthalate)	0.6	6		Y	YES
Di-n-butyl phthalate				Y	
Dibenzo(a,h)anthracene				Y	
Dibromochloromethane (Chlorodibromomethane)	6	100 TTHM			
Dibutyl Phthalate	20*				

Table 6.2 Regulated Substances and Regulatory Limits

Substance	Ch. NR 140 PAL µg/L	Ch. NR 809 MCL µg/L	Ch. NR 720 RCL** mg/kg (Industrial)	Ch. NR 105 Effluent Permit Limit	Ch. NR 149 LOD Reporting Requirement
Dicamba	60				
Dichlorodifluoromethane (Freon 12)	200			Y	
Dieldrin				Y	
Diethyl phthalate				Y	
Dimethoate	0.4			Y	YES
Dimethyl phthalate				Y	
Dinitrophenols				Y	
Dinoseb	1.4	7			
Dioxin (2,3,7,8-TCDD)	3E-06	3E-05		Y	YES
Diquat		20			
Endosulfan				Y	
Endothall		100			
Endrin	0.4	2		Y	
EPTC (Eptam)	50				
Ethylbenzene	140	700	2.900	Y	
Ethylene glycol	700				
Fluoranthene	80*			Y	
Fluorene	80				
Fluoride	800	4000			
Fluorotrichloromethane (Freon-11, trichlorofluoromethane)	698				
Formaldehyde	100				
Glyphosate		700			
Heptachlor	0.04	0.4		Y	YES
Heptachlor epoxide	0.02	0.2			YES
Hexachlorobenzene	0.1	1		Y	YES
Hexachlorobutadiene				Y	
Hexachlorocyclopentadiene		50		Y	
Hexachloroethane				Y	
Hexane (n-Hexane)	120*				
Hydrogen Sulfide	6*				
Indeno(1,2,3-cd)pyrene				Y	
Isophrone				Y	
Lead	1.5	15	50, (500)	Y	YES
Lindane	0.02	0.2		Y	YES
Mercury	0.2	2		Y	YES
Methanol	1000*				
Methoxychlor	4	40			
Methyl ethyl ketone (MEK)	90				
Methyl isobutyl ketone (MIBK, 4-methyl-2-pentanone)	50				
Methyl tert-butyl ether (MTBE, 2-methoxy-2-methylpropane)	12			Y	YES
Methylene Chloride (Dichloromethane)	0.5	5		Y	YES
Metolachlor	1.5			Y	

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Substance	Ch. NR 140 PAL µg/L	Ch. NR 809 MCL µg/L	Ch. NR 720 RCL** mg/kg (Industrial)	Ch. NR 105 Effluent Permit Limit	Ch. NR 149 LOD Reporting Requirement
Metribuzin	50				
N-Nitrosodi-n-butylamine				Y	
N-Nitrosodiethylamine				Y	
N-Nitrosodimethylamine				Y	
N-Nitrosodiphenylamine	0.7*			Y	
N-Nitrosopyrrolidine				Y	
Naphthalene	8			Y	
Nickel	20	100		Y	
Nitrate (as N)	2000	10000			
Nitrate + Nitrite (as N)	2000	10000			
Nitrite (as N)	200	1000			
Nitrobenzene				Y	
Oxamyl		200			
Parathion				Y	YES
Pentachlorobenzene				Y	
Pentachlorophenol (PCP)	0.1	1		Y	YES
Phenanthrene				Y	
Phenol	1200			Y	
Picloram	100	500			
Polychlorinated biphenyls (PCBs)	0.003	0.5		Y	YES
Prometon	18*				
Pyrene	50*			Y	
Pyridine	2*				
Selenium	10	50		Y	
Silver	10			Y	
Simazine	0.4	4			
Styrene (Ethenylbenzene)	10	100		Y	
Tetrachloroethylene (Perchloroethylene)	0.5	5		Y	
Tetrahydrofuran	10				
Thallium	0.4	2		Y	YES
Toluene	68.6	1000	1.500	Y	
Toxaphene	0.3	3		Y	YES
Trichloroethylene (TCE)	0.5	5		Y	
Trichlorofluoromethane (Freon 11)				Y	
Trifluralin	0.75			Y	YES
Trimethyl benzene (1,2,4 and 1,3,5 combined)	96*				
Vanadium	6*				
Vinyl Chloride	0.02	0.2		Y	YES
Xylene	124	10000	4.100		
Zinc				Y	

Table 6.2 Notes:

Substances in italics do not currently have regulated limits.

*These are proposed regulatory limits. The Department anticipates that these limits will be effective in 1999.
**There may be site specific soil clean-up standards for any substance.

Y = (Ch. NR 105) Substance is regulated but limits are calculated individually based on site characteristics.
YES = (Ch. NR 149) A laboratory must report this substance to its LOD.
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