RR Program's RCL Spreadsheet Update

March 2017 **DNR-RR-052e**

The Wisconsin DNR Remediation and Redevelopment Program (RR) has updated the numerical soil standards in the RR spreadsheet of residual contaminant levels (RCLs). The RCLs were determined using the U.S. EPA RSL web-calculator by accepting EPA exposure defaults, with the exception of using Chicago, IL, for the climatic zone. This document provides a summary of changes to the direct-contact RCLs (DC-RCLs) that are now in the March 2017 spreadsheet. The last page of this document has the EPA exposure parameter values used in the RCL calculations.

The U.S. EPA RSL web-calculator has been recently updated so that the most up-to-date toxicity values for chemicals were certainly used in the RCL calculations. However, it is important to note that the web-calculator is only a subpart of the full EPA RSL webpage, and that the other subparts that will have important explanatory text, generic tables and references have yet to be updated. While the RR Program has updated the RCL spreadsheet, further explanation regarding changes to DC-RCLs may have to wait until the full EPA RSL website is updated.

Table 1 (below) lists new DC-RCLs for several chemicals (*e.g.*, PFOA and PFOS) that were not in earlier versions of the spreadsheet. Table 2 (next several pages) lists the chemicals whose DC-RCLs have changed. Changes were brought about by switching from NR 720 exposure parameter defaults to the revised EPA defaults, and also by recent changes to the toxicity values of some chemicals (*e.g.*, Benzo[a]pyrene, and many pesticides). A few chemicals did not change (*e.g.*, Toluene and Xylenes) because their RCLs were already either at their respective Csat (soil saturation concentration) or at the ceiling concentration (10,000 mg/kg).

The updated RCLs may affect the closure decision for any current or incoming closure requests. Under s. NR 724.19, Wis. Adm. Code, responsible parties are required to comply with new or revised standards if the DNR determines that compliance to a more stringent revised standard is necessary to ensure that the remedial action will be protective of public health, safety, welfare or the environment.

Table 1: List of New Chemicals Added to the RR's Spreadsheet of RCLs (March 2017)

(For the March 2017 update, 10 new chemicals were added since May 2016.)

		New DC-RCLs (mg/kg)		
Contaminant	CAS Number	Non-Industrial	Industrial	Basis
Aminophenol, o-	95-55-6	2.53E+02	3.28E+03	nc
Bromine	7726-95-6	1.00E+05	1.00E+05	ceiling
Chlorobenzene sulfonic acid, p-	98-66-8	6.32E+03	8.21E+04	nc
Dimethylphthalate	131-11-3	5.69E+02	7.39E+03	nc
Guanidine Nitrate	506-93-4	1.90E+03	2.46E+04	nc
Mercaptobenzothiazole, 2-	149-30-4	4.93E+01	2.09E+02	ca
Perfluorooctane Sulfonate (PFOS)	1763-23-1	1.26E+00	1.64E+01	nc
Perfluorooctanoic acid (PFOA)	335-67-1	1.26E+00	1.64E+01	nc
Potassium Perfluorooctane Sulfonate	2795-39-3	1.26E+00	1.64E+01	nc
Selenourea	630-10-4	1.00E+05	1.00E+05	ceiling

Table 2: List of Direct-Contact RCLs that Changed in RR's Spreadsheet (updated March 2017)

1. The U.S. EPA's default exposure values were used in the RCL calculations and that explains the approximately 10% increase in non-industrial DC-RCLs.
2. Many carcinogenic PAHs' RCLs also increased because they are tied to Benzo[a]pyrene's 2017 EPA IRIS toxicity values.
3. Many pesticides' RCLs decreased because of changes in their toxicity values that are now coming from U.S. EPA Office of Pesticide Programs.
4. A few chemicals (like Toluene and Xylenes) are not in the table because their RCLs (already at Csat or Ceiling) did not change.

Bold chemical name indicates its non-industrial RCL has decreased.
Red values indicates RCL has decreased by a factor of 5 or more.

		Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
Contaminant	CAS Number	Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Benzene	71-43-2	1.49	1.6	ca	7.41	7.07	ca
Ethylbenzene	100-41-4	7.47	8.02	ca	37.	35.4	ca
Methyl tert-Butyl Ether (MTBE)	1634-04-4	59.4	63.8	ca	293.	282.	ca
Dichloroethane, 1,2-	107-06-2	0.608	0.652	ca	3.03	2.87	ca
Dibromoethane, 1,2-	106-93-4	0.047	0.05	ca	0.23	0.221	ca
Trichloroethylene	79-01-6	1.26	1.3	ca	8.81	8.41	ca
Tetrachloroethylene	127-18-4	30.7	33.	ca	153.	145.	ca
Vinyl Chloride	75-01-4	0.067	0.067	ca	2.03	2.08	ca
Dichloroethylene, 1,1-	75-35-4	342.	320.	nc	1,190.	1,190.	Csat
Dichloroethylene, 1,2-cis-	156-59-2	156.	156.	nc	2,040.	2,340.	nc
Carbon Tetrachloride	56-23-5	0.854	0.916	ca	4.25	4.03	ca
Trimethylbenzene, 1,2,4-	95-63-6	89.8	219.	Csat	219.	219.	Csat
Dioxane, 1,4-	123-91-1	5.27	5.72	ca	24.1	26.5	ca
Naphthalene	91-20-3	5.15	5.52	ca	26.	24.1	ca
Benzo[a]pyrene	50-32-8	0.015	0.115	ca	0.211	2.11	ca
Acenaphthene	83-32-9	3,440.	3,590.	nc	33,000.	45,200.	nc
Anthracene	120-12-7	17,200.	17,900.	nc	100,000.	100,000.	ceiling
Benz[a]anthracene	56-55-3	0.147	1.14	ca	2.1	20.8	ca
Benzo(j)fluoranthene	205-82-3	0.377	0.424	ca	1.28	1.76	ca
Benzo[b]fluoranthene	205-99-2	0.148	1.15	ca	2.11	21.1	ca
Benzo[k]fluoranthene	207-08-9	1.48	11.5	ca	21.1	211.	ca
Chrysene	218-01-9	14.8	115.	ca	211.	2,110.	ca
Dibenz[a,h]anthracene	53-70-3	0.015	0.115	ca	0.211	2.11	ca
Dibenzo(a,e)pyrene	192-65-4	0.038	0.042	ca	0.128	0.176	ca
Dimethylbenz(a)anthracene, 7,12-	57-97-6	4.31E-04	4.59E-04	ca	0.006	0.008	ca
Fluoranthene	206-44-0	2,290.	2,390.	nc	22,000.	30,100.	nc
Fluorene	86-73-7	2,290.	2,390.	nc	22,000.	30,100.	nc
Indeno[1,2,3-cd]pyrene	193-39-5	0.148	1.15	ca	2.11	21.1	ca
Methylnaphthalene, 1-	90-12-0	15.6	17.6	ca	53.1	72.7	ca
Methylnaphthalene, 2-	91-57-6	229.	239.	nc	2,200.	3,010.	nc
Nitropyrene, 4-	57835-92-4	0.377	0.424	ca	1.28	1.76	ca
Pyrene	129-00-0	1,720.	1,790.	nc	16,500.	22,600.	nc
Methylcholanthrene, 3-	56-49-5	0.005	0.006	ca	0.078	0.104	ca
Arsenic, Inorganic	7440-38-2	0.613	0.677	ca	2.39	3.	ca
Beryllium and compounds	7440-41-7	156.	156.	nc	2,010.	2,300.	nc
Cadmium (Diet)	7440-43-9	70.	71.1	nc	799.	985.	nc
Chromium(VI)	18540-29-9	0.293	0.301	ca	5.58	6.36	ca
Cobalt	7440-48-4	23.4	23.4	nc	304.	347.	nc
Copper	7440-50-8	3,130.	3,130.	nc	40,900.	46,700.	nc
Manganese (Non-diet)	7439-96-5	1,830.	1,830.	nc	22,900.	25,900.	nc
Molybdenum	7439-98-7	391.	391.	nc	5,110.	5,840.	nc
Nickel Soluble Salts	7440-02-0	1,550.	1,550.	nc	19,800.	22,500.	nc
Selenium	7782-49-2	391.	391.	nc	5,110.	5,840.	nc
Vanadium and Compounds	7440-62-2	393.	393.	nc	5,110.	5,840.	nc
Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	0.034	0.038	ca	0.114	0.158	ca
Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	0.011	0.012	ca	0.037	0.049	ca
Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	0.107	0.121	ca	0.367	0.498	ca
Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	0.11	0.124	ca	0.373	0.51	ca
Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	0.107	0.121	ca	0.367	0.498	ca
Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	0.109	0.122	ca	0.37	0.503	ca
Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	3.25E-05	3.66E-05	ca	1.11E-04	1.51E-04	ca
Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	0.11	0.124	ca	0.374	0.511	ca
Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	0.11	0.124	ca	0.373	0.51	ca
Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	0.111	0.125	ca	0.376	0.516	ca
Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	1.11E-04	1.25E-04	ca	3.76E-04	5.16E-04	ca
Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	0.112	0.126	ca	0.378	0.519	ca
Aroclor 1016	12674-11-2	3.93	4.11	nc	20.6	28.	ca
Aroclor 1221	11104-28-2	0.19	0.213	ca	0.67	0.883	ca
Aroclor 1232	11141-16-5	0.17	0.19	ca	0.62	0.792	ca
Aroclor 1242	53469-21-9	0.21	0.235	ca	0.717	0.972	ca

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Contaminant	CAS Number	Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
		Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Aroclor 1248	12672-29-6	0.21	0.236	ca	0.718	0.975	ca
Aroclor 1254	11097-69-1	0.213	0.239	ca	0.724	0.988	ca
Aroclor 1260	11096-82-5	0.216	0.243	ca	0.731	1.	ca
Aroclor 5460	11126-42-4	33.7	35.2	nc	319.	440.	nc
Polychlorinated Biphenyls (high risk)	1336-36-3	0.208	0.234	ca	0.714	0.967	ca
Acephate	30560-19-1	55.8	75.9	nc	198.	985.	nc
Acetaldehyde	75-07-0	15.	16.1	ca	75.5	70.2	ca
Acetochlor	34256-82-1	1,220.	1,260.	nc	12,300.	16,400.	nc
Acetone	67-64-1	63,800.	63,400.	nc	100,000.	100,000.	ceiling
Acetonitrile	75-05-8	1,260.	1,170.	nc	5,290.	4,920.	nc
Acetylaminofluorene, 2-	53-96-3	0.128	0.143	ca	0.454	0.605	ca
Acrolein	107-02-8	0.223	0.207	nc	0.939	0.873	nc
Acrylamide	79-06-1	0.23	0.244	ca	3.45	4.6	ca
Acrylic Acid	79-10-7	154.	143.	nc	648.	602.	nc
Acrylonitrile	107-13-1	0.314	0.338	ca	1.53	1.5	ca
Alachlor	15972-60-8	8.67	9.69	ca	30.8	41.	ca
Aldicarb	116-06-3	61.1	63.2	nc	616.	821.	nc
Aldicarb Sulfone	1646-88-4	61.1	63.2	nc	616.	821.	nc
Aldrin	309-00-2	0.037	0.04	ca	0.164	0.187	ca
Allyl Alcohol	107-18-6	5.46	5.08	nc	23.2	21.5	nc
Allyl Chloride	107-05-1	0.966	1.04	ca	4.85	4.54	ca
Aluminum Phosphide	20859-73-8	31.3	31.3	nc	409.	467.	nc
Ametryn	834-12-8	550.	569.	nc	5,540.	7,390.	nc
Aminobiphenyl, 4-	92-67-1	0.023	0.026	ca	0.082	0.109	ca
Aminophenol, m-	591-27-5	4,890.	5,060.	nc	49,300.	65,700.	nc
Aminophenol, p-	123-30-8	1,220.	1,260.	nc	12,300.	16,400.	nc
Amitraz	33089-61-1	153.	158.	nc	1,540.	2,050.	nc
Ammonium Perchlorate	7790-98-9	54.8	54.8	nc	715.	818.	nc
Amyl Alcohol, tert-	75-85-4	127.	118.	nc	535.	497.	nc
Aniline	62-53-3	85.2	95.2	ca	302.	403.	ca
Anthraquinone, 9,10-	84-65-1	12.1	13.6	ca	43.1	57.4	ca
Antimony (metallic)	7440-36-0	31.3	31.3	nc	409.	467.	nc
Antimony Pentoxide	1314-60-9	39.1	39.1	nc	511.	584.	nc
Antimony Tetroxide	1332-81-6	31.3	31.3	nc	409.	467.	nc
Arsine	7784-42-1	0.274	0.274	nc	3.58	4.09	nc
Asulam	3337-71-1	3,060.	2,280.	nc	30,800.	29,500.	nc
Atrazine	1912-24-9	2.11	2.36	ca	7.5	9.99	ca
Auramine	492-80-8	0.552	0.617	ca	1.96	2.61	ca
Avermectin B1	65195-55-3	24.4	25.3	nc	246.	328.	nc
Azinphos-methyl	86-50-0	183.	190.	nc	1,850.	2,460.	nc
Azobenzene	103-33-3	5.32	5.78	ca	24.1	27.	ca
Azodicarbonamide	123-77-3	9,600.	9,650.	nc	44,400.	45,200.	nc
Barium Chromate	10294-40-3	0.29	0.298	ca	5.48	6.22	ca
Benfluralin	1861-40-1	23,500.	391.	nc	100,000.	5,840.	nc
Benomyl	17804-35-2	3,060.	3,160.	nc	30,800.	41,000.	nc
Bensulfuron-methyl	83055-99-6	12,200.	12,600.	nc	100,000.	100,000.	ceiling
Bentazon	25057-89-0	1,830.	1,900.	nc	18,500.	24,600.	nc
Benzaldehyde	100-52-7	160.	174.	ca	715.	818.	ca
Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	4.85	5.43	ca	17.2	23.	ca
Benzenethiol	108-98-5	78.2	78.2	nc	1,020.	1,170.	nc
Benzidine	92-87-5	5.01E-04	5.30E-04	ca	0.007	0.01	ca
Benzotrichloride	98-07-7	0.049	0.054	ca	0.22	0.252	ca
Benzyl Alcohol	100-51-6	6,110.	6,320.	nc	61,600.	82,100.	nc
Benzyl Chloride	100-44-7	1.29	1.39	ca	6.24	6.23	ca
Bifenox	42576-02-3	550.	569.	nc	5,540.	7,390.	nc
Biphenthrin	82657-04-3	917.	948.	nc	9,230.	12,300.	nc
Biphenyl, 1,1'-	92-52-4	73.7	68.5	nc	310.	288.	nc
Bis(2-chloroethoxy)methane	111-91-1	183.	190.	nc	1,850.	2,460.	nc
Bis(2-chloroethyl)ether	111-44-4	0.265	0.286	ca	1.26	1.29	ca
Bis(2-ethylhexyl)phthalate	117-81-7	34.7	38.8	ca	123.	164.	ca

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Contaminant	CAS Number	Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
		Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Bis(chloromethyl)ether	542-88-1	1.10E-04	1.18E-04	ca	5.52E-04	5.17E-04	ca
Bisphenol A	80-05-7	3,060.	3,160.	nc	30,800.	41,000.	nc
Boron Trifluoride	07/02/7637	3,130.	3,130.	nc	40,900.	46,700.	nc
Bromate	15541-45-4	0.913	0.993	ca	4.09	4.67	ca
Bromo-2-chloroethane, 1-	107-04-0	0.033	0.036	ca	0.166	0.158	ca
Bromobenzene	108-86-1	354.	342.	nc	679.	679.	Csat
Bromochloromethane	74-97-5	232.	216.	nc	976.	906.	nc
Bromodichloromethane	75-27-4	0.39	0.418	ca	1.96	1.83	ca
Bromoform	75-25-2	23.6	25.4	ca	115.	113.	ca
Bromomethane	74-83-9	10.3	9.6	nc	46.	43.	nc
Bromophos	2104-96-3	391.	391.	nc	5,110.	5,840.	nc
Bromoxynil	1689-84-5	1,220.	5.27	ca	12,300.	22.3	ca
Bromoxynil Octanoate	1689-99-2	1,560.	1,170.	nc	20,400.	17,500.	nc
Butadiene, 1,3-	106-99-0	0.069	0.074	ca	0.333	0.334	ca
Butanoic acid, 4-(2,4-dichlorophenoxy)-	94-82-6	489.	1,900.	nc	4,930.	24,600.	nc
Butyl Benzyl Phthalate	85-68-7	256.	286.	ca	907.	1,210.	ca
Butylate	2008-41-5	3,910.	3,910.	nc	51,100.	58,400.	nc
Butylated hydroxyanisole	25013-16-5	2,430.	2,710.	ca	8,620.	11,500.	ca
Butylated hydroxytoluene	128-37-0	135.	151.	ca	479.	638.	ca
Butylphthalyl Butylglycolate	85-70-1	61,100.	63,200.	nc	100,000.	100,000.	ceiling
Cacodylic Acid	75-60-5	1,220.	1,260.	nc	12,300.	16,400.	nc
Calcium Chromate	13765-19-0	0.29	0.298	ca	5.48	6.22	ca
Calcium Cyanide	592-01-8	78.2	78.2	nc	1,020.	1,170.	nc
Caprolactam	105-60-2	30,300.	31,300.	nc	100,000.	100,000.	ceiling
Captafol	06/01/2425	3.24	3.62	ca	11.5	15.3	ca
Captan	133-06-2	211.	236.	ca	749.	999.	ca
Carbaryl	63-25-2	6,110.	6,320.	nc	61,600.	82,100.	nc
Carbofuran	1563-66-2	306.	316.	nc	3,080.	4,100.	nc
Carbonyl Sulfide	463-58-1	105.	97.3	nc	440.	409.	nc
Carbosulfan	55285-14-8	611.	632.	nc	6,160.	8,210.	nc
Carboxin	5234-68-4	6,110.	6,320.	nc	61,600.	82,100.	nc
Chloramben	133-90-4	917.	948.	nc	9,230.	12,300.	nc
Chloranil	118-75-2	1.2	1.35	ca	4.28	5.7	ca
Chlordane	12789-03-6	1.58	1.74	ca	6.33	7.76	ca
Chlordecone (Kepone)	143-50-0	0.049	0.054	ca	0.172	0.23	ca
Chlorfenvinphos	470-90-6	42.8	44.2	nc	431.	574.	nc
Chlorimuron, Ethyl-	90982-32-4	1,220.	5,690.	nc	12,300.	73,900.	nc
Chlorine	7782-50-5	0.287	0.267	nc	1.21	1.12	nc
Chlorine Dioxide	10049-04-4	2,330.	2,330.	nc	30,000.	34,200.	nc
Chlorite (Sodium Salt)	7758-19-2	2,350.	2,350.	nc	30,700.	35,000.	nc
Chloro-1,3-butadiene, 2-	126-99-8	0.014	0.015	ca	0.069	0.064	ca
Chloro-2-methylaniline HCl, 4-	3165-93-3	1.06	1.18	ca	3.75	5.	ca
Chloro-2-methylaniline, 4-	95-69-2	4.85	5.43	ca	17.2	23.	ca
Chloroacetaldehyde, 2-	107-20-0	2.37	2.57	ca	10.6	12.1	ca
Chloroaniline, p-	106-47-8	2.43	2.71	ca	8.62	11.5	ca
Chlorobenzene	108-90-7	392.	370.	nc	761.	761.	Csat
Chlorobenzilate	510-15-6	4.41	4.93	ca	15.7	20.9	ca
Chlorobenzoic Acid, p-	74-11-3	1,830.	1,900.	nc	18,500.	24,600.	nc
Chlorobenzotrifluoride, 4-	98-56-6	219.	218.	nc	290.	290.	Csat
Chloroethanol, 2-	107-07-3	1,560.	1,560.	nc	20,400.	23,400.	nc
Chloroform	67-66-3	0.423	0.454	ca	2.13	1.98	ca
Chloromethane	74-87-3	171.	159.	nc	720.	669.	nc
Chloromethyl Methyl Ether	107-30-2	0.026	0.028	ca	0.131	0.124	ca
Chloronaphthalene, Beta-	91-58-7	4,590.	4,780.	nc	44,000.	60,300.	nc
Chloronitrobenzene, o-	88-73-3	1.62	1.81	ca	5.75	7.66	ca
Chloronitrobenzene, p-	100-00-5	8.09	9.04	ca	28.7	38.3	ca
Chlorophenol, 2-	95-57-8	391.	391.	nc	5,110.	5,840.	nc
Chloropicrin	76-06-2	3.03	2.82	nc	12.7	11.8	nc
Chlorothalonil	1897-45-6	157.	175.	ca	556.	741.	ca
Chlorozotocin	54749-90-5	0.002	0.002	ca	0.007	0.01	ca

Continued ...

Table 2: List of Direct-Contact RCLs that Changed in RR's Spreadsheet (updated March 2017)

1. The U.S. EPA's default exposure values were used in the RCL calculations and that explains the approximately 10% increase in non-industrial DC-RCLs.
2. Many carcinogenic PAHs' RCLs also increased because they are tied to Benzo[a]pyrene's 2017 EPA IRIS toxicity values.
3. Many pesticides' RCLs decreased because of changes in their toxicity values that are now coming from U.S. EPA Office of Pesticide Programs.
4. A few chemicals (like Toluene and Xylenes) are not in the table because their RCLs (already at Csat or Ceiling) did not change.

Bold chemical name indicates its non-industrial RCL has decreased.
Red values indicates RCL has decreased by a factor of 5 or more.

Contaminant	CAS Number	Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
		Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Chlorpropham	101-21-3	12,200.	3,160.	nc	100,000.	41,000.	nc
Chlorpyrifos	2921-88-2	61.1	63.2	nc	616.	821.	nc
Chlorpyrifos Methyl	5598-13-0	611.	632.	nc	6,160.	8,210.	nc
Chlorsulfuron	64902-72-3	3,060.	1,260.	nc	30,800.	16,400.	nc
Chlorthal-dimethyl	1861-32-1	611.	632.	nc	6,160.	8,210.	nc
Chlorthiophos	60238-56-4	48.9	50.6	nc	493.	657.	nc
Clofentezine	74115-24-5	794.	822.	nc	8,000.	10,700.	nc
Copper Cyanide	544-92-3	391.	391.	nc	5,110.	5,840.	nc
Cresol, m-	108-39-4	3,060.	3,160.	nc	30,800.	41,000.	nc
Cresol, o-	95-48-7	3,060.	3,160.	nc	30,800.	41,000.	nc
Cresol, p-	106-44-5	6,110.	6,320.	nc	61,600.	82,100.	nc
Cresol, p-chloro-m-	59-50-7	6,110.	6,320.	nc	61,600.	82,100.	nc
Cresols	1319-77-3	6,110.	6,320.	nc	61,600.	82,100.	nc
Crotonaldehyde, trans-	123-73-9	0.336	0.366	ca	1.51	1.72	ca
Cupferron	135-20-6	2.21	2.47	ca	7.84	10.4	ca
Cyanazine	21725-46-2	0.578	0.646	ca	2.05	2.74	ca
Cyanide (CN-)	57-12-5	27.9	27.1	nc	197.	195.	nc
Cyanogen	460-19-5	78.2	78.2	nc	1,020.	1,170.	nc
Cyanogen Bromide	506-68-3	7,040.	7,040.	nc	92,000.	100,000.	ceiling
Cyanogen Chloride	506-77-4	3,910.	3,910.	nc	51,100.	58,400.	nc
Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	21.1	27.1	ca	75.	115.	ca
Cyfluthrin	68359-37-5	1,530.	1,580.	nc	15,400.	20,500.	nc
Cyhalothrin	68085-85-8	306.	63.2	nc	3,080.	821.	nc
Cypermethrin	52315-07-8	611.	3,790.	nc	6,160.	49,200.	nc
Cyromazine	66215-27-8	458.	948.	nc	4,620.	12,300.	nc
Dalapon	75-99-0	1,830.	1,900.	nc	18,500.	24,600.	nc
Daminozide	1596-84-5	27.	30.1	ca	95.8	128.	ca
DDD	72-54-8	2.02	2.26	ca	7.18	9.57	ca
DDE, p,p'-	72-55-9	1.84	2.	ca	8.25	9.38	ca
DDT	50-29-3	1.72	1.89	ca	7.03	8.53	ca
Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	428.	442.	nc	2,460.	3,280.	ca
Demeton	8065-48-3	2.44	2.53	nc	24.6	32.8	nc
Di(2-ethylhexyl)adipate	103-23-1	405.	452.	ca	1,440.	1,910.	ca
Diallate	2303-16-4	7.96	8.89	ca	28.3	37.7	ca
Diazinon	333-41-5	42.8	44.2	nc	431.	574.	nc
Dibenzofuran	132-64-9	72.2	73.	nc	853.	1,040.	nc
Dibenzothiophene	132-65-0	782.	782.	nc	10,200.	11,700.	nc
Dibromo-3-chloropropane, 1,2-	96-12-8	0.008	0.008	ca	0.099	0.092	ca
Dibromobenzene, 1,4-	106-37-6	782.	782.	nc	10,200.	11,700.	nc
Dibromochloromethane	124-48-1	7.6	8.28	ca	34.1	38.9	ca
Dibromomethane (Methylene Bromide)	74-95-3	36.6	34.	nc	154.	143.	nc
Dibutyl Phthalate	84-74-2	6,110.	6,320.	nc	61,600.	82,100.	nc
Dicamba	1918-00-9	1,830.	1,900.	nc	18,500.	24,600.	nc
Dichloro-2-butene, 1,4-	764-41-0	0.003	0.003	ca	0.015	0.014	ca
Dichloro-2-butene, cis-1,4-	1476-11-5	0.01	0.011	ca	0.05	0.047	ca
Dichloro-2-butene, trans-1,4-	110-57-6	0.01	0.011	ca	0.051	0.047	ca
Dichloroacetic Acid	79-43-6	9.71	10.9	ca	34.5	46.	ca
Dichlorobenzene, 1,4-	106-46-7	3.48	3.74	ca	17.5	16.4	ca
Dichlorobenzidine, 3,3'-	91-94-1	1.08	1.21	ca	3.83	5.11	ca
Dichlorobenzophenone, 4,4'-	90-98-2	550.	569.	nc	5,540.	7,390.	nc
Dichlorodifluoromethane	75-71-8	135.	126.	nc	571.	530.	nc
Dichloroethane, 1,1-	75-34-3	4.72	5.06	ca	23.7	22.2	ca
Dichlorophenol, 2,4-	120-83-2	183.	190.	nc	1,850.	2,460.	nc
Dichlorophenoxy Acetic Acid, 2,4-	94-75-7	686.	699.	nc	7,680.	9,640.	nc
Dichloropropane, 1,2-	78-87-5	1.33	0.406	ca	6.62	1.78	ca
Dichloropropanol, 2,3-	616-23-9	183.	190.	nc	1,850.	2,460.	nc
Dichloropropene, 1,3-	542-75-6	2.2	2.37	ca	10.6	10.6	ca
Dichlorvos	62-73-7	1.67	1.87	ca	5.94	7.92	ca
Dicrotophos	141-66-2	6.11	4.42	nc	61.6	57.4	nc
Dicyclopentadiene	77-73-6	2.	1.86	nc	8.4	7.8	nc

Continued ...

Table 2: List of Direct-Contact RCLs that Changed in RR's Spreadsheet (updated March 2017)

1. The U.S. EPA's default exposure values were used in the RCL calculations and that explains the approximately 10% increase in non-industrial DC-RCLs.
2. Many carcinogenic PAHs' RCLs also increased because they are tied to Benzo[a]pyrene's 2017 EPA IRIS toxicity values.
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Red values indicates RCL has decreased by a factor of 5 or more.

Contaminant	CAS Number	Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
		Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Dieldrin	60-57-1	0.03	0.034	ca	0.108	0.144	ca
Diethanolamine	111-42-2	122.	126.	nc	1,230.	1,640.	nc
Diethyl Phthalate	84-66-2	48,900.	50,600.	nc	100,000.	100,000.	ceiling
Diethylene Glycol Monobutyl Ether	112-34-5	1,810.	1,870.	nc	18,000.	23,800.	nc
Diethylene Glycol Monoethyl Ether	111-90-0	3,640.	3,760.	nc	36,300.	48,100.	nc
Diethylformamide	617-84-5	78.2	78.2	nc	1,020.	1,170.	nc
Diethylstilbestrol	56-53-1	0.001	0.002	ca	0.005	0.007	ca
Difenzoquat	43222-48-6	4,890.	5,250.	nc	49,300.	68,100.	nc
Diflubenzuron	35367-38-5	1,220.	1,260.	nc	12,300.	16,400.	nc
Dihydrosafrole	94-58-6	10.3	11.2	ca	47.8	51.5	ca
Dimethipin	55290-64-7	1,220.	1,380.	nc	12,300.	17,900.	nc
Dimethoate	60-51-5	12.2	139.	nc	123.	1,810.	nc
Dimethoxybenzidine, 3,3'-	119-90-4	0.303	0.339	ca	1.08	1.44	ca
Dimethyl methylphosphonate	756-79-6	286.	319.	ca	1,010.	1,350.	ca
Dimethylamino azobenzene [p-]	60-11-7	0.106	0.118	ca	0.375	0.5	ca
Dimethylaniline HCl, 2,4-	21436-96-4	0.837	0.935	ca	2.97	3.96	ca
Dimethylaniline, 2,4-	95-68-1	2.43	2.71	ca	8.62	11.5	ca
Dimethylaniline, N,N-	121-69-7	156.	25.7	ca	830.	121.	ca
Dimethylbenzidine, 3,3'-	119-93-7	0.044	0.049	ca	0.157	0.209	ca
Dimethylformamide	68-12-2	3,460.	3,320.	nc	20,800.	20,100.	nc
Dimethylhydrazine, 1,1-	57-14-7	0.089	0.082	nc	0.375	0.349	nc
Dimethylhydrazine, 1,2-	540-73-8	8.98E-04	9.74E-04	ca	0.004	0.005	ca
Dimethylphenol, 2,4-	105-67-9	1,220.	1,260.	nc	12,300.	16,400.	nc
Dimethylphenol, 2,6-	576-26-1	36.7	37.9	nc	369.	492.	nc
Dimethylphenol, 3,4-	95-65-8	61.1	63.2	nc	616.	821.	nc
Dimethylvinylchloride	513-37-1	1.43	1.54	ca	7.14	6.77	ca
Dinitrobenzene, 1,2-	528-29-0	6.11	6.32	nc	61.6	82.1	nc
Dinitrobenzene, 1,3-	99-65-0	6.11	6.32	nc	61.6	82.1	nc
Dinitrobenzene, 1,4-	100-25-4	6.11	6.32	nc	61.6	82.1	nc
Dinitro-o-cresol, 4,6-	534-52-1	4.89	5.06	nc	49.3	65.7	nc
Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5	122.	126.	nc	1,230.	1,640.	nc
Dinitrophenol, 2,4-	51-28-5	122.	126.	nc	1,230.	1,640.	nc
Dinitrotoluene, 2,4-	121-14-2	1.56	1.74	ca	5.52	7.37	ca
Dinitrotoluene, 2,6-	606-20-2	0.324	0.363	ca	1.15	1.54	ca
Dinitrotoluene, 2-Amino-4,6-	35572-78-2	154.	154.	nc	1,970.	2,280.	nc
Dinitrotoluene, 4-Amino-2,6-	19406-51-0	153.	153.	nc	1,930.	2,250.	nc
Dinitrotoluene, Technical grade	25321-14-6	1.08	1.21	ca	3.83	5.11	ca
Dinoseb	88-85-7	61.1	63.2	nc	616.	821.	nc
Diphenamid	957-51-7	1,830.	1,900.	nc	18,500.	24,600.	nc
Diphenyl Sulfone	127-63-9	48.9	50.6	nc	493.	657.	nc
Diphenylamine	122-39-4	1,530.	6,320.	nc	15,400.	82,100.	nc
Diphenylhydrazine, 1,2-	122-66-7	0.607	0.678	ca	2.15	2.87	ca
Diquat	85-00-7	134.	139.	nc	1,350.	1,810.	nc
Direct Black 38	1937-37-7	0.068	0.076	ca	0.242	0.323	ca
Direct Blue 6	2602-46-2	0.065	0.073	ca	0.233	0.31	ca
Direct Brown 95	16071-86-6	0.072	0.081	ca	0.257	0.342	ca
Disulfoton	298-04-4	2.44	2.53	nc	24.6	32.8	nc
Dithiane, 1,4-	505-29-3	782.	782.	nc	10,200.	11,700.	nc
Diuron	330-54-1	122.	126.	nc	1,230.	1,640.	nc
Dodine	10/03/2439	244.	1,260.	nc	2,460.	16,400.	nc
Endosulfan	115-29-7	469.	469.	nc	6,130.	7,010.	nc
Endothall	145-73-3	1,220.	1,260.	nc	12,300.	16,400.	nc
Endrin	72-20-8	18.3	19.	nc	185.	246.	nc
Epichlorohydrin	106-89-8	28.7	26.8	nc	126.	117.	nc
Epoxybutane, 1,2-	106-88-7	248.	231.	nc	1,040.	968.	nc
EPTC	759-94-4	1,960.	3,910.	nc	25,600.	58,400.	nc
Ethanol, 2-(2-methoxyethoxy)-	111-77-3	2,440.	2,530.	nc	24,600.	32,800.	nc
Ethephon	16672-87-0	306.	316.	nc	3,080.	4,100.	nc
Ethion	563-12-2	30.6	31.6	nc	308.	410.	nc
Ethoxyethanol Acetate, 2-	111-15-9	3,390.	3,250.	nc	20,200.	19,400.	nc

Continued ...

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Contaminant	CAS Number	Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
		Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Ethoxyethanol, 2-	110-80-5	5,770.	5,690.	nc	54,500.	57,000.	nc
Ethyl Acetate	141-78-6	964.	897.	nc	4,090.	3,800.	nc
Ethyl Acrylate	140-88-5	67.9	63.9	nc	323.	304.	nc
Ethylene Cyanohydrin	109-78-4	4,280.	4,420.	nc	43,100.	57,400.	nc
Ethylene Diamine	107-15-3	7,040.	7,040.	nc	92,000.	100,000.	ceiling
Ethylene Glycol Monobutyl Ether	111-76-2	6,110.	6,320.	nc	61,600.	82,100.	nc
Ethylene Oxide	75-21-8	0.232	0.003	ca	1.15	0.036	ca
Ethylene Thiourea	96-45-7	4.89	5.06	nc	38.3	51.1	ca
Ethyleneimine	151-56-4	0.003	0.003	ca	0.016	0.015	ca
Ethyl-p-nitrophenyl Phosphonate	2104-64-5	0.611	0.632	nc	6.16	8.21	nc
Fenamiphos	22224-92-6	15.3	15.8	nc	154.	205.	nc
Fenpropathrin	39515-41-8	1,530.	1,580.	nc	15,400.	20,500.	nc
Fenvalerate	51630-58-1	1,530.	1,580.	nc	15,400.	20,500.	nc
Fluometuron	2164-17-2	794.	822.	nc	8,000.	10,700.	nc
Fluoride	16984-48-8	3,130.	3,130.	nc	40,900.	46,700.	nc
Fluorine (Soluble Fluoride)	7782-41-4	4,690.	4,690.	nc	61,300.	70,000.	nc
Fluridone	59756-60-4	4,890.	5,060.	nc	49,300.	65,700.	nc
Flurprimidol	56425-91-3	1,220.	948.	nc	12,300.	12,300.	nc
Flusilazole	85509-19-9	42.8	126.	nc	431.	1,640.	nc
Flutolanil	66332-96-5	3,670.	31,600.	nc	36,900.	100,000.	ceiling
Fluvalinate	69409-94-5	611.	632.	nc	6,160.	8,210.	nc
Folpet	133-07-3	139.	5,690.	nc	493.	73,900.	nc
Fomesafen	72178-02-0	2.56	158.	nc	9.07	2,050.	nc
Fonofos	944-22-9	122.	126.	nc	1,230.	1,640.	nc
Formaldehyde	50-00-0	22.6	24.2	ca	114.	106.	ca
Formic Acid	64-18-6	45.2	42.	nc	190.	176.	nc
Furan	110-00-9	72.2	73.	nc	853.	1,040.	nc
Furazolidone	67-45-8	0.128	0.143	ca	0.454	0.605	ca
Furfural	98-01-1	221.	220.	nc	2,590.	2,850.	nc
Furium	531-82-8	0.324	0.362	ca	1.15	1.53	ca
Furmecyclox	60568-05-0	16.2	18.1	ca	57.5	76.6	ca
Glufosinate, Ammonium	77182-82-2	24.4	379.	nc	246.	4,920.	nc
Glycidyl	765-34-4	25.5	25.1	nc	239.	249.	nc
Glyphosate	1071-83-6	6,110.	6,320.	nc	61,600.	82,100.	nc
Guanidine	113-00-8	782.	782.	nc	10,200.	11,700.	nc
Guanidine Chloride	50-01-1	1,220.	1,260.	nc	12,300.	16,400.	nc
Haloxyfop, Methyl	69806-40-2	3.06	3.16	nc	30.8	41.	nc
HCDD, 1,2,3,4,6,7,8,-	35822-46-9	4.41E-04	4.84E-04	ca	0.002	0.002	ca
Heptachlor	76-44-8	0.129	0.14	ca	0.583	0.654	ca
Heptachlor Epoxide	1024-57-3	0.066	0.072	ca	0.299	0.338	ca
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	67562-39-4	4.46E-04	4.90E-04	ca	0.002	0.002	ca
Heptane, N-	142-82-5	57.9	22.5	nc	57.9	57.9	Csat
Hexabromobenzene	87-82-1	156.	156.	nc	2,040.	2,340.	nc
Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2	12.2	12.6	nc	123.	164.	nc
Hexachlorobenzene	118-74-1	0.233	0.252	ca	1.09	1.15	ca
Hexachlorobutadiene	87-68-3	1.51	1.63	ca	7.45	7.19	ca
Hexachlorocyclohexane, Alpha-	319-84-6	0.077	0.086	ca	0.274	0.365	ca
Hexachlorocyclohexane, Beta-	319-85-7	0.27	0.301	ca	0.958	1.28	ca
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	0.516	0.568	ca	2.06	2.54	ca
Hexachlorocyclohexane, Technical	608-73-1	0.27	0.301	ca	0.958	1.28	ca
Hexachlorocyclopentadiene	77-47-4	2.74	2.55	nc	11.6	10.8	nc
Hexachlorodibenzofuran, 1,2,3,4,7,8-	70648-26-9	4.42E-05	4.85E-05	ca	1.81E-04	2.20E-04	ca
Hexachlorodibenzo-p-dioxin	34465-46-8	4.49E-05	4.93E-05	ca	1.84E-04	2.23E-04	ca
Hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-	39227-28-6	4.49E-05	4.93E-05	ca	1.84E-04	2.23E-04	ca
Hexachloroethane	67-72-1	2.35	2.52	ca	11.6	11.1	ca
Hexachlorophene	70-30-4	18.3	19.	nc	185.	246.	nc
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	5.54	6.06	ca	23.7	28.	ca
Hexamethylene Diisocyanate, 1,6-	822-06-0	4.87	4.52	nc	20.4	19.	nc
Hexamethylphosphoramide	680-31-9	24.4	25.3	nc	246.	328.	nc
Hexanone, 2-	591-78-6	244.	237.	nc	1,770.	1,760.	nc

Continued ...

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Contaminant	CAS Number	Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
		Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Hexazinone	51235-04-2	2,020.	2,090.	nc	20,300.	27,100.	nc
Hexythiazox	78587-05-0	1,530.	1,580.	nc	15,400.	20,500.	nc
HpCDD, 2,3,7,8-	37871-00-4	4.41E-04	4.84E-04	ca	0.002	0.002	ca
HpCDF, 1,2,3,4,7,8,9-	55673-89-7	4.46E-04	4.90E-04	ca	0.002	0.002	ca
HpCDF, 2,3,7,8-	38998-75-3	4.46E-04	4.90E-04	ca	0.002	0.002	ca
HxCDD, 1,2,3,6,7,8-	57653-85-7	4.49E-05	4.93E-05	ca	1.84E-04	2.23E-04	ca
HxCDD, 1,2,3,7,8,9-	19408-74-3	4.49E-05	4.93E-05	ca	1.84E-04	2.23E-04	ca
HxCDF, 1,2,3,6,7,8-	57117-44-9	4.42E-05	4.85E-05	ca	1.81E-04	2.20E-04	ca
HxCDF, 1,2,3,7,8,9-	72918-21-9	4.49E-05	4.93E-05	ca	1.84E-04	2.23E-04	ca
HxCDF, 2,3,4,6,7,8-	60851-34-5	4.49E-05	4.93E-05	ca	1.84E-04	2.23E-04	ca
HxCDF, 2,3,7,8-	55684-94-1	4.49E-05	4.93E-05	ca	1.84E-04	2.23E-04	ca
Hydramethylnon	67485-29-4	18.3	1,070.	nc	185.	14,000.	nc
Hydrazine	302-01-2	0.213	0.232	ca	0.954	1.09	ca
Hydrazine Sulfate	10034-93-2	0.213	0.232	ca	0.954	1.09	ca
Hydrogen Cyanide	74-90-8	27.7	26.9	nc	194.	192.	nc
Hydrogen Fluoride	7664-39-3	3,130.	3,130.	nc	40,900.	46,700.	nc
Hydroquinone	123-31-9	8.09	9.04	ca	28.7	38.3	ca
Imazalil	35554-44-0	794.	8.88	ca	8,000.	37.6	ca
Imazaquin	81335-37-7	15,300.	15,800.	nc	100,000.	100,000.	ceiling
Imazethapyr	81335-77-5	15,300.	100,000.	ceiling	100,000.	100,000.	ceiling
Iodine	7553-56-2	782.	782.	nc	10,200.	11,700.	nc
Iprodione	36734-19-7	2,440.	2,530.	nc	24,600.	32,800.	nc
Isophorone	78-59-1	511.	571.	ca	1,810.	2,420.	ca
Isopropalin	33820-53-0	1,170.	1,170.	nc	15,300.	17,500.	nc
Isopropanol	67-63-0	8,490.	7,920.	nc	37,000.	34,500.	nc
Isopropyl Methyl Phosphonic Acid	1832-54-8	6,110.	6,320.	nc	61,600.	82,100.	nc
Isoxaben	82558-50-7	3,060.	3,160.	nc	30,800.	41,000.	nc
Lactofen	77501-63-4	122.	506.	nc	1,230.	6,570.	nc
Lead acetate	301-04-2	57.1	63.8	ca	203.	270.	ca
Lead Chromate	7758-97-6	0.29	0.298	ca	5.48	6.22	ca
Lead Phosphate	7446-27-7	75.1	81.8	ca	337.	385.	ca
Lead subacetate	1335-32-6	57.1	63.8	ca	203.	270.	ca
Lewisite	541-25-3	0.391	0.391	nc	5.11	5.84	nc
Linuron	330-55-2	122.	487.	nc	1,230.	6,320.	nc
Lithium	7439-93-2	156.	156.	nc	2,040.	2,340.	nc
Lithium Perchlorate	03/09/7791	54.8	54.8	nc	715.	818.	nc
Malathion	121-75-5	1,220.	1,260.	nc	12,300.	16,400.	nc
Maleic Anhydride	108-31-6	6,080.	6,290.	nc	60,800.	80,700.	nc
Maleic Hydrazide	123-33-1	30,600.	31,600.	nc	100,000.	100,000.	ceiling
Malononitrile	109-77-3	6.11	6.32	nc	61.6	82.1	nc
Mancozeb	01/07/8018	1,830.	1,900.	nc	18,500.	24,600.	nc
Maneb	12427-38-2	306.	316.	nc	3,080.	4,100.	nc
MCPA	94-74-6	30.6	31.6	nc	308.	410.	nc
MCPB	94-81-5	611.	278.	nc	6,160.	3,610.	nc
MCPP	93-65-2	61.1	63.2	nc	616.	821.	nc
Mephosfolan	950-10-7	5.5	5.69	nc	55.4	73.9	nc
Mepiquat Chloride	24307-26-4	1,830.	1,900.	nc	18,500.	24,600.	nc
Mercuric Chloride	7487-94-7	23.5	23.5	nc	307.	350.	nc
Merphos	150-50-5	2.35	2.35	nc	30.7	35.	nc
Merphos Oxide	78-48-8	1.83	6.32	nc	18.5	82.1	nc
Metalaxyl	57837-19-1	3,670.	3,790.	nc	36,900.	49,200.	nc
Methacrylonitrile	126-98-7	7.64	7.63	nc	95.2	107.	nc
Methamidophos	10265-92-6	3.06	3.16	nc	30.8	41.	nc
Methidathion	950-37-8	61.1	94.8	nc	616.	1,230.	nc
Methomyl	16752-77-5	1,530.	1,580.	nc	15,400.	20,500.	nc
Methoxy-5-nitroaniline, 2-	99-59-2	9.91	11.1	ca	35.2	46.9	ca
Methoxychlor	72-43-5	306.	316.	nc	3,080.	4,100.	nc
Methoxyethanol Acetate, 2-	110-49-6	152.	144.	nc	763.	722.	nc
Methoxyethanol, 2-	109-86-4	349.	346.	nc	3,720.	4,010.	nc
Methyl Acrylate	96-33-3	226.	210.	nc	949.	882.	nc

Continued ...

Table 2: List of Direct-Contact RCLs that Changed in RR's Spreadsheet (updated March 2017)

1. The U.S. EPA's default exposure values were used in the RCL calculations and that explains the approximately 10% increase in non-industrial DC-RCLs.
2. Many carcinogenic PAHs' RCLs also increased because they are tied to Benzo[a]pyrene's 2017 EPA IRIS toxicity values.
3. Many pesticides' RCLs decreased because of changes in their toxicity values that are now coming from U.S. EPA Office of Pesticide Programs.
4. A few chemicals (like Toluene and Xylenes) are not in the table because their RCLs (already at Csat or Ceiling) did not change.

Bold chemical name indicates its non-industrial RCL has decreased.
Red values indicates RCL has decreased by a factor of 5 or more.

		Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
Contaminant	CAS Number	Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Methyl Hydrazine	60-34-4	0.191	0.204	ca	0.961	0.893	ca
Methyl Isocyanate	624-83-9	7.16	6.65	nc	30.1	27.9	nc
Methyl Mercury	22967-92-6	7.82	7.82	nc	102.	117.	nc
Methyl methanesulfonate	66-27-3	4.9	5.48	ca	17.4	23.2	ca
Methyl Parathion	298-00-0	15.3	15.8	nc	154.	205.	nc
Methyl Phosphonic Acid	993-13-5	3,670.	3,790.	nc	36,900.	49,200.	nc
Methyl Styrene (Mixed Isomers)	25013-15-4	362.	355.	nc	393.	393.	Csat
Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2	18.3	19.	nc	185.	246.	nc
Methyl-5-Nitroaniline, 2-	99-55-8	53.9	60.3	ca	192.	255.	ca
Methylaniline Hydrochloride, 2-	636-21-5	3.73	4.17	ca	13.3	17.7	ca
Methylarsonic acid	124-58-3	611.	632.	nc	6,160.	8,210.	nc
Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7	12.2	12.6	nc	123.	164.	nc
Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	4.85	5.43	ca	17.2	23.	ca
Methylene Chloride	75-09-2	60.7	61.8	ca	1,070.	1,150.	ca
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	1.15	1.22	ca	17.2	23.	ca
Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	10.6	11.8	ca	37.5	50.	ca
Methylenebisbenzenamine, 4,4'-	101-77-9	0.303	0.339	ca	1.08	1.44	ca
Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	0.059	0.065	ca	0.208	0.277	ca
Metolachlor	51218-45-2	9,170.	9,480.	nc	92,300.	100,000.	ceiling
Metribuzin	21087-64-9	1,530.	1,580.	nc	15,400.	20,500.	nc
Metsulfuron-methyl	74223-64-6	15,300.	15,800.	nc	100,000.	100,000.	ceiling
Mirex	2385-85-5	0.034	0.037	ca	0.151	0.171	ca
Molinate	2212-67-1	122.	126.	nc	1,230.	1,640.	nc
Monomethylaniline	100-61-8	122.	126.	nc	1,230.	1,640.	nc
Myclobutanil	88671-89-0	1,530.	1,580.	nc	15,400.	20,500.	nc
N,N'-Diphenyl-1,4-benzenediamine	74-31-7	18.3	19.	nc	185.	246.	nc
Naled	300-76-5	156.	156.	nc	2,040.	2,340.	nc
Naphtha, High Flash Aromatic (HFAN)	64742-95-6	2,350.	2,350.	nc	30,700.	35,000.	nc
Naphthylamine, 2-	91-59-8	0.27	0.301	ca	0.958	1.28	ca
Napropamide	15299-99-7	6,110.	7,590.	nc	61,600.	98,500.	nc
Nickel Acetate	373-02-4	653.	675.	nc	6,320.	8,250.	nc
Nickel Carbonate	3333-67-3	653.	675.	nc	6,320.	8,250.	nc
Nickel Carbonyl	13463-39-3	829.	829.	nc	10,100.	11,300.	nc
Nickel Hydroxide	12054-48-7	829.	829.	nc	10,100.	11,300.	nc
Nickel Oxide	1313-99-1	838.	838.	nc	10,400.	11,700.	nc
Nickel Subsulfide	12035-72-2	0.376	0.409	ca	1.68	1.92	ca
Nickelocene	1271-28-9	653.	675.	nc	6,320.	8,250.	nc
Nitroaniline, 2-	88-74-4	606.	627.	nc	6,050.	8,010.	nc
Nitroaniline, 4-	100-01-6	24.3	27.1	ca	86.2	115.	ca
Nitrobenzene	98-95-3	6.92	7.42	ca	34.9	32.4	ca
Nitrofurantoin	67-20-9	4,280.	4,420.	nc	43,100.	57,400.	nc
Nitrofurazone	59-87-0	0.373	0.417	ca	1.33	1.77	ca
Nitroglycerin	55-63-0	6.11	6.32	nc	61.6	82.1	nc
Nitroguanidine	556-88-7	6,110.	6,320.	nc	61,600.	82,100.	nc
Nitromethane	75-52-5	7.28	7.8	ca	36.7	34.1	ca
Nitropropane, 2-	79-46-9	0.018	0.02	ca	0.093	0.086	ca
Nitrosodiethanolamine, N-	1116-54-7	0.173	0.194	ca	0.616	0.821	ca
Nitrosodiethylamine, N-	55-18-5	7.68E-04	8.12E-04	ca	0.012	0.015	ca
Nitrosodimethylamine, N-	62-75-9	0.002	0.002	ca	0.037	0.04	ca
Nitroso-di-N-butylamine, N-	924-16-3	0.098	0.106	ca	0.448	0.494	ca
Nitroso-di-N-propylamine, N-	621-64-7	0.069	0.078	ca	0.246	0.328	ca
Nitrosodiphenylamine, N-	86-30-6	99.1	111.	ca	352.	469.	ca
Nitrosomethylethylamine, N-	10595-95-6	0.021	0.023	ca	0.096	0.103	ca
Nitrosomorpholine [N-]	59-89-2	0.073	0.081	ca	0.257	0.343	ca
Nitroso-N-ethylurea, N-	759-73-9	0.004	0.005	ca	0.064	0.085	ca
Nitroso-N-methylurea, N-	684-93-5	9.59E-04	0.001	ca	0.014	0.019	ca
Nitrosopiperidine [N-]	100-75-4	0.052	0.058	ca	0.183	0.244	ca
Nitrosopyrrolidine, N-	930-55-2	0.231	0.258	ca	0.821	1.09	ca
Nitrotoluene, m-	99-08-1	6.11	6.32	nc	61.6	82.1	nc
Nitrotoluene, o-	88-72-2	2.9	3.16	ca	13.	14.9	ca

Continued ...

Table 2: List of Direct-Contact RCLs that Changed in RR's Spreadsheet (updated March 2017)

1. The U.S. EPA's default exposure values were used in the RCL calculations and that explains the approximately 10% increase in non-industrial DC-RCLs.
2. Many carcinogenic PAHs' RCLs also increased because they are tied to Benzo[a]pyrene's 2017 EPA IRIS toxicity values.
3. Many pesticides' RCLs decreased because of changes in their toxicity values that are now coming from U.S. EPA Office of Pesticide Programs.
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Bold chemical name indicates its non-industrial RCL has decreased.
Red values indicates RCL has decreased by a factor of 5 or more.

Contaminant	CAS Number	Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
		Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Nitrotoluene, p-	99-99-0	30.3	33.9	ca	108.	144.	ca
Norflurazon	27314-13-2	2,440.	948.	nc	24,600.	12,300.	nc
OCDD	3268-87-9	0.015	0.016	ca	0.061	0.074	ca
OCDF	39001-02-0	0.015	0.016	ca	0.061	0.074	ca
Octabromodiphenyl Ether	32536-52-0	183.	190.	nc	1,850.	2,460.	nc
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0	3,850.	3,860.	nc	49,200.	57,000.	nc
Octamethylpyrophosphoramide	152-16-9	122.	126.	nc	1,230.	1,640.	nc
Octyl Phthalate, di-N-	117-84-0	611.	632.	nc	6,160.	8,210.	nc
Oryzalin	19044-88-3	3,060.	69.7	ca	30,800.	295.	ca
Oxadiazon	19666-30-9	306.	316.	nc	3,080.	4,100.	nc
Oxamyl	23135-22-0	1,530.	1,580.	nc	15,400.	20,500.	nc
Oxyfluorfen	42874-03-3	183.	7.41	ca	1,850.	31.4	ca
Paclobutrazol	76738-62-0	794.	822.	nc	8,000.	10,700.	nc
Paraquat Dichloride	1910-42-5	275.	284.	nc	2,770.	3,690.	nc
Parathion	56-38-2	367.	379.	nc	3,690.	4,920.	nc
Pebulate	1114-71-2	3,910.	3,910.	nc	51,100.	58,400.	nc
PeCDD, 2,3,7,8-	36088-22-9	4.49E-06	4.93E-06	ca	1.84E-05	2.23E-05	ca
PeCDF, 1,2,3,7,8-	57117-41-6	1.50E-04	1.64E-04	ca	6.12E-04	7.44E-04	ca
PeCDF, 2,3,4,7,8-	57117-31-4	1.50E-05	1.64E-05	ca	6.12E-05	7.44E-05	ca
Pendimethalin	40487-42-1	2,440.	1,900.	nc	24,600.	24,600.	nc
Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9	6.11	6.32	nc	61.6	82.1	nc
Pentachlorobenzene	608-93-5	62.6	62.6	nc	818.	934.	nc
Pentachlorodibenzo-p-dioxin, 1,2,3,7,8-	40321-76-4	4.49E-06	4.93E-06	ca	1.84E-05	2.23E-05	ca
Pentachloroethane	76-01-7	7.1	7.72	ca	31.8	36.3	ca
Pentachloronitrobenzene	82-68-8	2.46	2.67	ca	11.	12.6	ca
Pentachlorophenol	87-86-5	0.892	1.02	ca	2.7	3.97	ca
Pentaerythritol tetranitrate (PETN)	78-11-5	121.	126.	nc	431.	574.	ca
Perchlorate and Perchlorate Salts	14797-73-0	54.8	54.8	nc	715.	818.	nc
Perfluorobutane Sulfonate (PFBS)	375-73-5	1,560.	1,260.	nc	20,400.	16,400.	nc
Permethrin	52645-53-1	3,060.	3,160.	nc	30,800.	41,000.	nc
Phenacetin	62-44-2	221.	247.	ca	784.	1,040.	ca
Phenmedipham	13684-63-4	15,300.	15,200.	nc	100,000.	100,000.	ceiling
Phenol	108-95-2	18,300.	19,000.	nc	100,000.	100,000.	ceiling
Phenol, 2-(1-methylethoxy)-, methylcarbamate	114-26-1	244.	253.	nc	2,460.	3,280.	nc
Phenothiazine	92-84-2	30.6	31.6	nc	308.	410.	nc
Phenyl Isothiocyanate	103-72-0	129.	15.6	nc	129.	129.	Csat
Phenylenediamine, m-	108-45-2	367.	379.	nc	3,690.	4,920.	nc
Phenylenediamine, o-	95-54-5	10.3	4.52	ca	36.7	19.1	ca
Phenylenediamine, p-	106-50-3	11,600.	63.2	nc	100,000.	821.	nc
Phenylmercuric Acetate	62-38-4	4.89	5.06	nc	49.3	65.7	nc
Phenylphenol, 2-	90-43-7	250.	280.	ca	889.	1,180.	ca
Phorate	298-02-2	12.2	12.6	nc	123.	164.	nc
Phosgene	75-44-5	0.477	0.443	nc	2.	1.86	nc
Phosmet	732-11-6	1,220.	1,260.	nc	12,300.	16,400.	nc
Phosphine	7803-51-2	23.5	23.5	nc	307.	350.	nc
Phosphorus, White	7723-14-0	1.56	1.56	nc	20.4	23.4	nc
Phthalic Acid, P-	100-21-0	61,100.	63,200.	nc	100,000.	100,000.	ceiling
Picloram	02/01/1918	4,280.	4,420.	nc	43,100.	57,400.	nc
Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3	6.11	6.32	nc	61.6	82.1	nc
Picric Acid (2,4,6-Trinitrophenol)	88-89-1	55.	56.9	nc	554.	739.	nc
Pirimiphos, Methyl	29232-93-7	611.	4.21	nc	6,160.	54.7	nc
Polybrominated Biphenyls	59536-65-1	0.016	0.018	ca	0.058	0.077	ca
Potassium Cyanide	151-50-8	156.	156.	nc	2,040.	2,340.	nc
Potassium Perchlorate	7778-74-7	54.8	54.8	nc	715.	818.	nc
Potassium Perfluorobutane Sulfonate	29420-49-3	1,220.	1,260.	nc	12,300.	16,400.	nc
Potassium Silver Cyanide	506-61-6	391.	391.	nc	5,110.	5,840.	nc
Prochloraz	67747-09-5	3.24	3.62	ca	11.5	15.3	ca
Profluralin	26399-36-0	469.	469.	nc	6,130.	7,010.	nc
Prometon	1610-18-0	917.	948.	nc	9,230.	12,300.	nc
Prometryn	7287-19-6	244.	2,530.	nc	2,460.	32,800.	nc

Continued ...

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1. The U.S. EPA's default exposure values were used in the RCL calculations and that explains the approximately 10% increase in non-industrial DC-RCLs.
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Red values indicates RCL has decreased by a factor of 5 or more.

Contaminant	CAS Number	Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
		Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Propachlor	1918-16-7	794.	822.	nc	8,000.	10,700.	nc
Propanil	709-98-8	306.	316.	nc	3,080.	4,100.	nc
Propargite	2312-35-8	1,220.	16.6	ca	12,300.	70.3	ca
Propargyl Alcohol	107-19-7	156.	156.	nc	2,040.	2,340.	nc
Propazine	139-40-2	1,220.	1,260.	nc	12,300.	16,400.	nc
Propham	122-42-9	1,220.	1,260.	nc	12,300.	16,400.	nc
Propiconazole	60207-90-1	794.	6,320.	nc	8,000.	82,100.	nc
Propionaldehyde	123-38-6	116.	108.	nc	487.	452.	nc
Propylene Glycol Monomethyl Ether	107-98-2	45,000.	44,400.	nc	100,000.	100,000.	ceiling
Propylene Oxide	75-56-9	2.12	2.3	ca	9.73	10.7	ca
Propyzamide	23950-58-5	4,580.	4,740.	nc	46,200.	61,500.	nc
Pyridine	110-86-1	78.2	78.2	nc	1,020.	1,170.	nc
Quinalphos	13593-03-8	30.6	31.6	nc	308.	410.	nc
Quinoline	91-22-5	0.162	0.181	ca	0.575	0.766	ca
Quizalofop-ethyl	76578-14-8	550.	569.	nc	5,540.	7,390.	nc
Resmethrin	10453-86-8	1,830.	1,900.	nc	18,500.	24,600.	nc
Ronnel	299-84-3	3,910.	3,910.	nc	51,100.	58,400.	nc
Rotenone	83-79-4	244.	253.	nc	2,460.	3,280.	nc
Safrole	94-59-7	0.523	0.554	ca	7.84	10.4	ca
Selenious Acid	7783-00-8	391.	391.	nc	5,110.	5,840.	nc
Selenium Sulfide	7446-34-6	391.	391.	nc	5,110.	5,840.	nc
Sethoxydim	74051-80-2	5,500.	8,850.	nc	55,400.	100,000.	ceiling
Silver	7440-22-4	391.	391.	nc	5,110.	5,840.	nc
Simazine	122-34-9	4.05	4.52	ca	14.4	19.1	ca
Sodium Acifluorfen	62476-59-9	794.	822.	nc	8,000.	10,700.	nc
Sodium Azide	26628-22-8	313.	313.	nc	4,090.	4,670.	nc
Sodium Cyanide	143-33-9	78.2	78.2	nc	1,020.	1,170.	nc
Sodium Dichromate	10588-01-9	0.29	0.298	ca	5.48	6.22	ca
Sodium Diethyldithiocarbamate	148-18-5	1.8	2.01	ca	6.38	8.51	ca
Sodium Fluoride	7681-49-4	3,910.	3,910.	nc	51,100.	58,400.	nc
Sodium Fluoroacetate	62-74-8	1.22	1.26	nc	12.3	16.4	nc
Sodium Metavanadate	13718-26-8	78.2	78.2	nc	1,020.	1,170.	nc
Sodium Perchlorate	7601-89-0	54.8	54.8	nc	715.	818.	nc
Sodium Tungstate	13472-45-2	62.6	62.6	nc	818.	934.	nc
Sodium Tungstate Dihydrate	10213-10-2	62.6	62.6	nc	818.	934.	nc
Stirofos (Tetrachlorovinphos)	961-11-5	20.2	22.6	ca	71.8	95.7	ca
Strontium Chromate	06/02/7789	0.29	0.298	ca	5.48	6.22	ca
Strychnine	57-24-9	18.3	19.	nc	185.	246.	nc
Sulfolane	126-33-0	61.1	63.2	nc	616.	821.	nc
Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9	48.9	50.6	nc	493.	657.	nc
Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	19.4	21.7	ca	69.	91.9	ca
TCDD, 2,3,7,8-	1746-01-6	4.39E-06	4.82E-06	ca	1.80E-05	2.18E-05	ca
TCDF, 2,3,7,8-	51207-31-9	4.41E-05	4.84E-05	ca	1.81E-04	2.19E-04	ca
TCMTB	21564-17-0	1,830.	1,900.	nc	18,500.	24,600.	nc
Tebuthiuron	34014-18-1	4,280.	4,420.	nc	43,100.	57,400.	nc
Temephos	3383-96-8	1,220.	1,260.	nc	12,300.	16,400.	nc
Terbacil	5902-51-2	794.	822.	nc	8,000.	10,700.	nc
Terbufos	13071-79-9	1.96	1.96	nc	25.6	29.2	nc
Terbutryn	886-50-0	61.1	63.2	nc	616.	821.	nc
Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	5436-43-1	6.11	6.32	nc	61.6	82.1	nc
Tetrachlorobenzene, 1,2,4,5-	95-94-3	23.5	23.5	nc	307.	350.	nc
Tetrachloroethane, 1,1,1,2-	630-20-6	2.59	2.78	ca	12.9	12.3	ca
Tetrachloroethane, 1,1,2,2-	79-34-5	0.753	0.81	ca	3.69	3.6	ca
Tetrachlorophenol, 2,3,4,6-	58-90-2	1,830.	1,900.	nc	18,500.	24,600.	nc
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	0.032	0.035	ca	0.143	0.164	ca
Tetraethyl Dithiopyrophosphate	3689-24-5	30.6	31.6	nc	308.	410.	nc
Tetraethyl Lead	78-00-2	0.008	0.008	nc	0.102	0.117	nc
Tetrahydrofuran	109-99-9	24,300.	23,300.	nc	100,000.	100,000.	ceiling
Tetryl (Trinitrophenylmethylnitramine)	479-45-8	156.	156.	nc	2,040.	2,330.	nc
Thallic Oxide	1314-32-5	1.56	1.56	nc	20.4	23.4	nc

Continued ...

Table 2: List of Direct-Contact RCLs that Changed in RR's Spreadsheet (updated March 2017)

1. The U.S. EPA's default exposure values were used in the RCL calculations and that explains the approximately 10% increase in non-industrial DC-RCLs.
2. Many carcinogenic PAHs' RCLs also increased because they are tied to Benzo[a]pyrene's 2017 EPA IRIS toxicity values.
3. Many pesticides' RCLs decreased because of changes in their toxicity values that are now coming from U.S. EPA Office of Pesticide Programs.
4. A few chemicals (like Toluene and Xylenes) are not in the table because their RCLs (already at Csat or Ceiling) did not change.

Bold chemical name indicates its non-industrial RCL has decreased.
Red values indicates RCL has decreased by a factor of 5 or more.

Contaminant	CAS Number	Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
		Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Thallium (I) Nitrate	10102-45-1	0.782	0.782	nc	10.2	11.7	nc
Thallium (Soluble Salts)	7440-28-0	0.782	0.782	nc	10.2	11.7	nc
Thallium Acetate	563-68-8	0.782	0.782	nc	10.2	11.7	nc
Thallium Carbonate	6533-73-9	1.56	1.56	nc	20.4	23.4	nc
Thallium Chloride	7791-12-0	0.782	0.782	nc	10.2	11.7	nc
Thallium Selenite	12039-52-0	0.782	0.782	nc	10.2	11.7	nc
Thallium Sulfate	7446-18-6	1.56	1.56	nc	20.4	23.4	nc
Thifensulfuron-methyl	79277-27-3	794.	2,720.	nc	8,000.	35,300.	nc
Thiobencarb	28249-77-6	611.	632.	nc	6,160.	8,210.	nc
Thiocyanic Acid	463-56-9	15.6	15.6	nc	204.	234.	nc
Thiodiglycol	111-48-8	5,360.	5,380.	nc	68,200.	79,200.	nc
Thiofanox	39196-18-4	18.3	19.	nc	185.	246.	nc
Thiophanate, Methyl	23564-05-8	4,890.	46.8	ca	49,300.	198.	ca
Thiram	137-26-8	306.	948.	nc	3,080.	12,300.	nc
Toluene-2,4-diisocyanate	584-84-9	9.87	9.17	nc	41.5	38.5	nc
Toluene-2,5-diamine	95-70-5	2.7	3.01	ca	9.58	12.8	ca
Toluene-2,6-diisocyanate	91-08-7	8.18	7.6	nc	34.4	31.9	nc
Toluidine, o- (Methylaniline, 2-)	95-53-4	30.3	33.9	ca	108.	144.	ca
Toluidine, p-	106-49-0	16.2	18.1	ca	57.5	76.6	ca
Toxaphene	8001-35-2	0.441	0.493	ca	1.57	2.09	ca
Tralomethrin	66841-25-6	458.	474.	nc	4,620.	6,150.	nc
Triadimefon	43121-43-3	1,830.	2,150.	nc	18,500.	27,900.	nc
Triallate	2303-17-5	1,020.	9.7	ca	13,300.	45.6	ca
Triasulfuron	82097-50-5	611.	632.	nc	6,160.	8,210.	nc
Tribenuron-methyl	101200-48-0	489.	506.	nc	4,930.	6,570.	nc
Tribromobenzene, 1,2,4-	615-54-3	391.	391.	nc	5,110.	5,840.	nc
Tributyl Phosphate	126-73-8	53.9	60.3	ca	192.	255.	ca
Tributyltin Oxide	56-35-9	18.3	19.	nc	185.	246.	nc
Trichloroacetic Acid	76-03-9	6.94	7.75	ca	24.6	32.8	ca
Trichloroaniline HCl, 2,4,6-	33663-50-2	16.7	18.7	ca	59.4	79.2	ca
Trichloroaniline, 2,4,6-	634-93-5	1.83	1.9	nc	18.5	24.6	nc
Trichlorobenzene, 1,2,3-	87-61-6	62.6	62.6	nc	818.	934.	nc
Trichlorobenzene, 1,2,4-	120-82-1	22.	24.	ca	98.7	113.	ca
Trichloroethane, 1,1,2-	79-00-5	1.48	1.59	ca	7.34	7.01	ca
Trichlorophenol, 2,4,5-	95-95-4	6,110.	6,320.	nc	61,600.	82,100.	nc
Trichlorophenol, 2,4,6-	88-06-2	44.1	49.3	ca	157.	209.	ca
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	611.	632.	nc	6,160.	8,210.	nc
Trichlorophenoxypropionic acid, -2,4,5	93-72-1	489.	506.	nc	4,930.	6,570.	nc
Trichloropropane, 1,2,3-	96-18-4	0.005	0.005	ca	0.095	0.109	ca
Trichloropropene, 1,2,3-	96-19-5	1.13	1.05	nc	4.77	4.43	nc
Tricresyl Phosphate (TCP)	1330-78-5	1,220.	1,260.	nc	12,300.	16,400.	nc
Tridiphane	58138-08-2	183.	190.	nc	1,850.	2,460.	nc
Triethylamine	121-44-8	179.	167.	nc	753.	700.	nc
Trifluralin	1582-09-8	83.	90.3	ca	372.	425.	ca
Trimethyl Phosphate	512-56-1	24.3	27.1	ca	86.2	115.	ca
Trimethylbenzene, 1,2,3-	526-73-8	76.5	293.	Csat	293.	293.	Csat
Tri-n-butyltin	688-73-3	23.5	23.5	nc	307.	350.	nc
Trinitrobenzene, 1,3,5-	99-35-4	2,230.	2,250.	nc	27,200.	32,400.	nc
Trinitrotoluene, 2,4,6-	118-96-7	19.3	21.3	ca	78.8	96.	ca
Triphenylphosphine Oxide	791-28-6	1,220.	1,260.	nc	12,300.	16,400.	nc
Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8	1,220.	1,260.	nc	12,300.	16,400.	nc
Tris(1-chloro-2-propyl)phosphate	13674-84-5	611.	632.	nc	6,160.	8,210.	nc
Tris(2,3-dibromopropyl)phosphate	126-72-7	0.264	0.287	ca	1.19	1.34	ca
Tris(2-chloroethyl)phosphate	115-96-8	24.3	27.1	ca	86.2	115.	ca
Tris(2-ethylhexyl)phosphate	78-42-2	152.	170.	ca	539.	718.	ca
Tungsten	7440-33-7	62.6	62.6	nc	818.	934.	nc
Urethane	51-79-6	0.115	0.122	ca	1.72	2.3	ca
Vanadium Pentoxide	1314-62-1	458.	528.	ca	2,310.	2,310.	ca
Vernolate	1929-77-7	78.2	78.2	nc	1,020.	1,170.	nc
Vinclozolin	50471-44-8	1,530.	75.9	nc	15,400.	985.	nc

Continued ...

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2. Many carcinogenic PAHs' RCLs also increased because they are tied to Benzo[a]pyrene's 2017 EPA IRIS toxicity values.
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Contaminant	CAS Number	Non-Industrial DC-RCL (mg/kg)			Industrial DC-RCL (mg/kg)		
		Old (June 2016)	Current (March 2017)	Basis	Old (June 2016)	Current (March 2017)	Basis
Vinyl Acetate	108-05-4	1,400.	1,300.	nc	2,750.	2,750.	Csat
Vinyl Bromide	593-60-2	0.162	0.173	ca	0.815	0.757	ca
Warfarin	81-81-2	18.3	19.	nc	185.	246.	nc
Zinc Cyanide	557-21-1	3,910.	3,910.	nc	51,100.	58,400.	nc
Zinc Phosphide	1314-84-7	23.5	23.5	nc	307.	350.	nc
Zineb	12122-67-7	3,060.	3,160.	nc	30,800.	41,000.	nc
Zirconium	7440-67-7	6.26	6.26	nc	81.8	93.4	nc

Exposure Parameter Values Used to Determine DC-RCLs

Update to RR-890 and RCL Spreadsheet (March 2017)

In October 2016, the Wisconsin Department of Health Services recommended not using the exposure defaults in NR 720, Wis. Adm. Code, but instead using the default exposure values in the U.S. EPA RSL website when calculating soil RCLs.

This means that the defaults shown below do not need to be changed when using the RSL web-calculator.

	NR 720 RCL Defaults *(Replaced by values on the right)*	Web-Calculator Defaults
Non-Industrial Setting		
BW-Adult (kg):	*70*	***80***
Exposure Duration (yr):	*30*	***26*** *(= 6 as child + 20 as adult)*
SA-Child (cm^2/d):	*2800*	***2373***
SA-Adult (cm^2/d):	*5700*	***6032***
T (VF Aver. time):	*30 yr = 9.5e8 s*	*26 yr =* ***8.2e8*** *s*
Industrial Setting		
BW-Adult (kg):	*70*	***80***
ED (yr):	*25*	*25*
AFw:	*0.2*	***0.12***
SA-Adult (cm^2/d):	*3300*	***3527***
T (VF Aver. time):	*30 yr = 9.5e8 s*	*26 yr =* ***8.2e8*** *s*

Now, to calculate DC-RCLs, the only EPA default parameter to replace will be the climatic zone as shown in red on the right panel.

Selecting "Chicago, IL" will update the acceptable values of PEF and VF necessary in the calculations.

Both Settings
(Non-Industrial and Industrial)

Particulate Emission Factor

Chicago, IL

Default	City (Climatic Zone) - Selection based on most
0.5	A_s (acres)
1359344438	PEF (particulate emission factor) m^3/kg
93.77	Q/C_{wp} (g/m^2-s per kg/m^3) PEF Selection
16.2302	A (PEF Dispersion Constant)
18.7762	B (PEF Dispersion Constant)
216.108	C (PEF Dispersion Constant)
0.5	V (fraction of vegetative cover) unitless
4.69	U_m (mean annual wind speed) m/s
11.32	U_t (equivalent threshold value)
0.194	F(x) (function dependant on U_m/U_t) unitless

Volatilization Factor

Chicago, IL

Default	City (Climatic Zone)
0.5	A_s (acres)
68.18	Q/C_{wp} (g/m^2-s per kg/m^3) VF Selection
11.911	A (VF Dispersion Constant)
18.4385	B (VF Dispersion Constant)
209.7845	C (VF Dispersion Constant)
0.006	foc (fraction organic carbon in soil) g/g
1.5	ρ_b (dry soil bulk density) g/cm^3
0.15	θ_w (water-filled soil porosity) L_{water}/L_{soil}
2.65	ρ_s (soil particle density) g/cm^3
819936000	T (exposure interval) s