

Toxic Air Contaminants in Proposed Noncancer Hazard Index Rules

Background Information and Numbers

The Oregon Department of Environmental Quality (DEQ) is proposing science- and policy-based rules for Section 7 of Senate Bill (SB) 1541. The proposed rules will set lower non-cancer benchmarks for certain toxic air contaminants emitted from existing facilities.

SB 1541 allows DEQ to identify toxic air contaminants emitted from existing facilities to be regulated at a Hazard Index (HI) other than HI5 that are expected to have (a) developmental human health effects associated with prenatal or postnatal exposure or (b) other severe human health effects (Section 7(1)(a) and (b)). In consultation with the technical advisory committee and the rules advisory committee, DEQ has identified 154 of these chemicals for EQC consideration under Section 7 of SB 1541.

- Toxic air contaminants or classes of toxic air contaminants regulated under the Cleaner Air Oregon program: **259**
- Toxic air contaminants with noncancer toxicity reference values: **182**
- Toxic air contaminants out of 182 that meet criteria for having developmental or other severe health effects: **154**

List of Toxic Air Contaminants Expected to Have Developmental or Other Severe Health Effects

Of the 182 toxic air contaminants with noncancer toxicity reference values, DEQ has determined that 154 of them are expected to have developmental or other severe human health effects associated with prenatal or postnatal exposure that DEQ is proposing to regulate at an HI of 3. Here is a list of the proposed HI designations (HI3 or HI5) and the source(s) DEQ used to designate each of the 182 toxic air contaminants:

Chemical CASRN	Chemical Name	Proposed HI Designation	Develop-mental Health Effect	Other Severe Health Effects		
				Reproductive Health Effect	Multiple Target Organs	U.S. Department of Transportation Inhalation Hazards
75-07-0	Acetaldehyde	HI3	X		X	
67-64-1	Acetone	HI3	X	X		
75-05-8	Acetonitrile	HI3	X		X	
107-02-8	Acrolein	HI5				
79-06-1	Acrylamide	HI3	X	X		
79-10-7	Acrylic acid	HI3	X	X		
107-13-1	Acrylonitrile	HI3	X			
107-05-1	Allyl chloride	HI3	X			

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7429-90-5	Aluminum and compounds	HI5				
7664-41-7	Ammonia	HI3			X	
62-53-3	Aniline	HI5				
7440-36-0	Antimony and compounds	HI3	X	X		
7440-38-2	Arsenic and compounds	HI3	X			
7784-42-1	Arsine	HI3	X			X
71-43-2	Benzene	HI3	X			
100-44-7	Benzyl chloride	HI3			X	
7440-41-7	Beryllium and compounds	HI3			X	
111-44-4	<i>Bis</i> (2-chloroethyl) ether (BCEE)	HI3			X	
542-88-1	<i>Bis</i> (chloromethyl) ether	HI5				
74-83-9	Bromomethane (Methyl bromide)	HI3	X	X		X
106-94-5	1-Bromopropane (<i>n</i> -propyl bromide)	HI3	X	X		
106-99-0	1,3-Butadiene	HI3	X	X		
78-93-3	2-Butanone (Methyl ethyl ketone)	HI3	X			
78-92-2	<i>sec</i> -Butyl alcohol	HI3	X			
7440-43-9	Cadmium and compounds	HI3	X	X		
105-60-2	Caprolactam	HI3	X			
75-15-0	Carbon disulfide	HI3	X	X	X	
56-23-5	Carbon tetrachloride	HI3	X			
463-58-1	Carbonyl sulfide	HI3		X		X
57-74-9	Chlordane	HI3	X			
7782-50-5	Chlorine	HI3		X		X

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10049-04-4	Chlorine dioxide	HI3	X	X		
532-27-4	2-Chloroacetophenone	HI5				
108-90-7	Chlorobenzene	HI3		X		
75-68-3	1-Chloro-1,1-difluoroethane	HI3	X			
75-45-6	Chlorodifluoromethane (Freon 22)	HI3	X	X	X	
75-00-3	Chloroethane (Ethyl chloride)	HI3	X		X	
67-66-3	Chloroform	HI3	X	X	X	
74-87-3	Chloromethane (Methyl chloride)	HI3	X	X		
76-06-2	Chloropicrin	HI3				X
126-99-8	Chloroprene	HI3			X	
18540-29-9	Chromium VI, chromate and dichromate particulate	HI3	X	X		
18540-29-9	Chromium VI, chromic acid aerosol mist	HI3	X			
7440-48-4	Cobalt and compounds	HI3	X	X		
7440-50-8	Copper and compounds	HI3	X	X		
1319-77-3	Cresols (mixture), including <i>m</i> -cresol, <i>o</i> -cresol, <i>p</i> -cresol	HI3	X	X		
74-90-8	Cyanide, Hydrogen	HI3		X		
110-82-7	Cyclohexane	HI3	X			
333-41-5	Diazinon	HI3	X	X		
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	HI3		X		
106-46-7	<i>p</i> -Dichlorobenzene (1,4-Dichlorobenzene)	HI3	X		X	

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156-60-5	<i>trans</i> -1,2-dichloroethene	HI3	X			
75-09-2	Dichloromethane (Methylene chloride)	HI3	X	X		
78-87-5	1,2-Dichloropropane (Propylene dichloride)	HI3	X	X		
542-75-6	1,3-Dichloropropene	HI5				
62-73-7	Dichlorovos (DDVP)	HI5				
	Diesel Particulate Matter	HI5				
111-42-2	Diethanolamine	HI3	X			
112-34-5	Diethylene glycol monobutyl ether	HI3	X			
111-90-0	Diethylene glycol monoethyl ether	HI5				
75-37-6	1,1-Difluoroethane	HI5				
68-12-2	Dimethyl formamide	HI3	X	X		
57-14-7	1,1-Dimethylhydrazine	HI3	X	X		
123-91-1	1,4-Dioxane	HI3	X		X	
298-04-4	Disulfoton	HI3	X	X		
106-89-8	Epichlorohydrin	HI3	X	X	X	
106-88-7	1,2-Epoxybutane	HI5				
140-88-5	Ethyl acrylate	HI3	X			
100-41-4	Ethyl benzene	HI3	X	X		
106-93-4	Ethylene dibromide (EDB, 1,2-Dibromoethane)	HI3	X	X		X
107-06-2	Ethylene dichloride (EDC, 1,2-Dichloroethane)	HI3	X	X		
107-21-1	Ethylene glycol	HI3	X			

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111-76-2	Ethylene glycol monobutyl ether	HI3	X	X		
110-80-5	Ethylene glycol monoethyl ether	HI3	X	X	X	
111-15-9	Ethylene glycol monoethyl ether acetate	HI3	X			
109-86-4	Ethylene glycol monomethyl ether	HI3	X	X		
110-49-6	Ethylene glycol monomethyl ether acetate	HI3		X		
75-21-8	Ethylene oxide	HI3	X	X		X
	Fluorides	HI3		X		
7782-41-4	Fluorine gas	HI3		X	X	
50-00-0	Formaldehyde	HI3	X	X		
111-30-8	Glutaraldehyde	HI5				
77-47-4	Hexachlorocyclopentadiene	HI3		X		X
67-72-1	Hexachloroethane	HI3	X	X		
822-06-0	Hexamethylene-1,6-diisocyanate	HI5				
110-54-3	Hexane	HI3	X	X		
302-01-2	Hydrazine	HI3		X		
7647-01-0	Hydrochloric acid	HI3	X	X		
7664-39-3	Hydrogen fluoride	HI3		X		
7783-06-4	Hydrogen sulfide	HI3	X			X
78-59-1	Isophorone	HI3	X			
67-63-0	Isopropyl alcohol	HI3	X	X	X	
98-82-8	Isopropylbenzene (Cumene)	HI3			X	

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7439-92-1	Lead and compounds	HI3	X	X		
108-31-6	Maleic anhydride	HI5				
7439-96-5	Manganese and compounds	HI3	X	X		
7439-97-6	Mercury and compounds	HI3	X		X	
67-56-1	Methanol	HI3	X	X		
101-77-9	4,4'-Methylenedianiline (and its dichloride)	HI5				
101-68-8	Methylene diphenyl diisocyanate (MDI)	HI3	X			
108-10-1	Methyl isobutyl ketone (MIBK, Hexone)	HI3	X	X		
624-83-9	Methyl isocyanate	HI3	X			X
80-62-6	Methyl methacrylate	HI5				
1634-04-4	Methyl <i>tert</i> -butyl ether	HI3	X	X	X	
91-20-3	Naphthalene	HI3			X	
	Nickel compounds, insoluble	HI3	X	X	X	
	Nickel compounds, soluble	HI3	X	X	X	
7697-37-2	Nitric acid	HI5				
98-95-3	Nitrobenzene	HI3		X		
79-46-9	2-Nitropropane	HI5				
8014-95-7	Oleum (fuming sulfuric acid)	HI5				
56-38-2	Parathion	HI3	X	X		
108-95-2	Phenol	HI3	X		X	
75-44-5	Phosgene	HI3				X
7803-51-2	Phosphine	HI3			X	X
7664-38-2	Phosphoric acid	HI3	X			

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12185-10-3	Phosphorus, white	HI3	X			
85-44-9	Phthalic anhydride	HI3	X	X	X	
	Polybrominated diphenyl ethers (PBDEs)	HI3	X	X		
<i>Polychlorinated biphenyls (PCBs) TEQ</i>						
32598-13-3	PCB 77 [3,3',4,4'-tetrachlorobiphenyl]	HI3	X	X	X	
70362-50-4	PCB 81 [3,4,4',5-tetrachlorobiphenyl]	HI3	X	X	X	
32598-14-4	PCB 105 [2,3,3',4,4'-pentachlorobiphenyl]	HI3	X	X	X	
74472-37-0	PCB 114 [2,3,4,4',5-pentachlorobiphenyl]	HI3	X	X	X	
31508-00-6	PCB 118 [2,3',4,4',5-pentachlorobiphenyl]	HI3	X	X	X	
65510-44-3	PCB 123 [2,3',4,4',5'-pentachlorobiphenyl]	HI3	X	X	X	
57465-28-8	PCB 126 [3,3',4,4',5-pentachlorobiphenyl]	HI3	X	X	X	
38380-08-4	PCB 156 [2,3,3',4,4',5-hexachlorobiphenyl]	HI3	X	X	X	
69782-90-7	PCB 157 [2,3,3',4,4',5'-hexachlorobiphenyl]	HI3	X	X	X	
52663-72-6	PCB 167 [2,3',4,4',5,5'-hexachlorobiphenyl]	HI3	X	X	X	
32774-16-6	PCB 169 [3,3',4,4',5,5'-hexachlorobiphenyl]	HI3	X	X	X	
39635-31-9	PCB 189 [2,3,3',4,4',5,5'-heptachlorobiphenyl]	HI3	X	X	X	
<i>Polychlorinated dibenzo-p-dioxins (PCDDs) & dibenzofurans (PCDFs) TEQ</i>						

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1746-01-6	2,3,7,8-Tetrachlorodibenzo- <i>p</i> -dioxin (TCDD)	HI3	X	X	X	
40321-76-4	1,2,3,7,8-Pentachlorodibenzo- <i>p</i> -dioxin (PeCDD)	HI3	X	X	X	
39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo- <i>p</i> -dioxin (HxCDD)	HI3	X	X	X	
57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo- <i>p</i> -dioxin (HxCDD)	HI3	X	X	X	
19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo- <i>p</i> -dioxin (HxCDD)	HI3	X	X	X	
35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo- <i>p</i> -dioxin (HpCDD)	HI3	X	X	X	
3268-87-9	Octachlorodibenzo- <i>p</i> -dioxin (OCDD)	HI3	X	X	X	
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TcDF)	HI3	X	X	X	
57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	HI3	X	X	X	
57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	HI3	X	X	X	
70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	HI3	X	X	X	
57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	HI3	X	X	X	

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72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	HI3	X	X	X	
60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	HI3	X	X	X	
67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	HI3	X	X	X	
55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	HI3	X	X	X	
39001-02-0	Octachlorodibenzofuran (OCDF)	HI3	X	X	X	
50-32-8	Benzo[a]pyrene	HI3	X	X		
123-38-6	Propionaldehyde	HI5				
115-07-1	Propylene	HI5				
6423-43-4	Propylene glycol dinitrate	HI5				
107-98-2	Propylene glycol monomethyl ether	HI3	X			
75-56-9	Propylene oxide	HI3	X	X		
	Refractory Ceramic Fibers	HI5				
7783-07-5	Selenide, hydrogen	HI3	X	X	X	
7782-49-2	Selenium and compounds	HI3			X	
7631-86-9	Silica, crystalline (respirable)	HI5				
1310-73-2	Sodium hydroxide	HI3			X	
100-42-5	Styrene	HI3	X			
7664-93-9	Sulfuric acid	HI5				

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505-60-2	Sulfur Mustard	HI3	X	X		
7446-71-9	Sulfur trioxide	HI5				
127-18-4	Tetrachloroethene (Perchloroethylene)	HI3	X	X		
811-97-2	1,1,1,2-Tetrafluoroethane	HI3	X	X		
7550-45-0	Titanium tetrachloride	HI3	X			X
108-88-3	Toluene	HI3	X	X		
26471-62-5	Toluene diisocyanates (2,4- and 2,6-)	HI3	X			
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	HI3	X			
79-01-6	Trichloroethene (TCE, Trichloroethylene)	HI3	X	X	X	
96-18-4	1,2,3-Trichloropropane	HI5				
121-44-8	Triethylamine	HI3	X		X	
526-73-8	1,2,3-Trimethylbenzene	HI3	X			
95-63-6	1,2,4-Trimethylbenzene	HI3	X			
108-67-8	1,3,5-Trimethylbenzene	HI3	X			
7440-62-2	Vanadium (fume or dust)	HI3	X	X		
1314-62-1	Vanadium pentoxide	HI3	X	X		
108-05-4	Vinyl acetate	HI3	X			
593-60-2	Vinyl bromide	HI5				
75-01-4	Vinyl chloride	HI3	X	X		
75-35-4	Vinylidene chloride	HI3	X			
1330-20-7	Xylene (mixture), including <i>m</i> -xylene, <i>o</i> -xylene, <i>p</i> -xylene	HI3	X		X	