

**REDLIST
DECLARATION**



RED LIST DECLARATION

Manufacturer: Del Conca USA

Product Name: Gres porcelain tiles Bla

Commonly referred to as "the Red List", the following list of materials has been compiled by the Living Future Institute as the worst in class materials prevalent in the building industry. I certify that the following are/are not in the product listed above (below the instrumental limits).

Yes No

- Alkylphenols
- Asbestos
- Bisphenol A (BPA)
- Cadmium
- Chlorinated Polyethylene & Chlorosulfonated Polyethylene
- Chlorobenzenes
- Chlorofluorocarbons (CFCs) & Hydrochlorofluorocarbons (HCFCs)
- Chloroprene (Neoprene)
- Chromium VI
- Formaldehyde (added)
- Halogenated Flame Retardants (HFRs)
- Lead (added)
- Mercury
- Polychlorinated Biphenyls (PCBs)
- Perfluorinated Compounds (PFCs)
- Phthalates
- Polyvinyl Chloride (PVC), Chlorinated Polyvinyl Chloride (CPVC) or Polyvinylidene Chloride (PVDC)
- Short Chain Chlorinated Paraffins
- Volatile Organic Compounds (VOCs) in wet applied products
- Wood treatments containing Creosote, Arsenic or Pentachlorophenol

Signature:

Date: 02/01/24

Name:

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APPENDIX :

ALKYLPHENOLS are a large family of organic compounds used in a wide variety of products, including cleaning products, beauty products, contraceptives, coatings, fragrances, thermoplastics, carbonless copy paper, and agrochemicals. Most concerns are focused on alkylphenol ethoxylates (APEs), which bioaccumulate and have been shown to cause endocrine disruption in fish. APEs are in cleaning products that end up in waterways from wastewater treatment effluent. Some alkylphenols, especially nonylphenol, are being phased out in Europe, and more research into their impacts is needed. A few governments with environmentally preferable purchasing programs restrict or ban APEs

- ○ REF: <http://www2.mst.dk/Udgiv/publications/2013/04/978-87-92903-99-0.pdf>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
104-40-5	4-Nonylphenol (Linear)	136-83-4	2-Nonylphenol
142731-63-3	4-(1-Ethyl-1,4-Dimethylpentyl)Phenol	139-84-4	3-Nonylphenol
17404-66-9	P-(1-Methyloctyl)Phenol	25154-52-3	Nonylphenol (Mixed Isomers)
186825-36-5	4-(1-Ethyl-1,3-Dimethylpentyl)Phenol	26636-32-8	4-Octylphenol polyethoxylate
26543-97-5	P-Isononylphenol	2315-61-9	Ethanol, 2-(2-(4-(1,1,3,3-tetramethylbutyl)phenoxy)ethoxy)-
30784-30-6	P-(1,1-Dimethylheptyl)Phenol	2315-67-5	Octoxynol-1
52427-13-1	4-(1-Ethyl-1-Methylhexyl)Phenol	9002-93-1	Octoxynol-9
84852-15-3	4-Nonylphenol (Branched)	2497-59-8	TRITON(R) X-405
127087-87-0	Polyethylene Glycol Mono(Branched P-Nonylphenyl) Ether	67700-46-3	rosin, polymer with formaldehyde, 4-octylphenol and pentaerythritol
156609-10-8	4-T-Nonylphenol Diethoxylate	70955-45-2	rosin, polymer with formaldehyde, glycerol, octylphenol and polymd. Rosin
26027-38-3	Polyoxyethylene Nonylphenyl Ether	11081-15-5	Isooctylphenol
27177-08-8	Nonylphenol Polyethylene Glycol Ether	140-66-9	4-Tert-Octylphenol
37205-87-1	Isononylphenol Ethoxylate	1806-26-4	4-N-Octylphenol
68412-54-4	Polyoxyethylene Branched C9 Alkylphenol Ether	27193-28-8	Tert-Octylphenol
9016-45-9	Polyethylene Glycol Nonylphenyl Ether	67554-50-1	2-Tert-Octylphenol
26523-78-4	Nonylphenol Phosphite (3:1)	949-13-3	2-N-Octylphenol
67905-91-3		2-Propenoic Acid, Polymer With Formaldehyde, 2,5-Furandione, Methyloxirane, 4-Nonylphenol And Oxirane (9Ci)	

ASBESTOS is a mineral fiber that is used in a variety of construction materials for its strength and heat resisting capabilities. It is often found in wall insulation, vinyl floor coverings, paint compounds, roofing, heat-resistant fabrics, and automobile brakes. Exposure occurs as asbestos fibers are released into the air



during use, demolition, work, building, or repair of asbestos-containing materials. Asbestos is a known human carcinogen, increasing risks of lung cancer, mesothelioma, and asbestosis.

- REF: <http://www2.epa.gov/asbestos/learn-about-asbestos#asbestos>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
12001-28-4	Asbestos(F) Crocidolite	13768-00-8	Actinolite
12001-29-5	Asbestos, Chrysotile	14567-73-8	Tremolite Asbestos
12172-73-5	Asbestos, Amosite	16829-43-9	Asbestos, Anthophyllite
12413-45-5	Asbestos	17068-78-9	Anthophyllite, Non-Asbestiform
132207-32-0	Asbestos, Chrysotile	77536-66-4	Asbestos, Actinolite
132207-33-1	Asbestos, Crocidolite	77536-67-5	Asbestos, Anthophyllite
1332-21-4	Asbestos	77536-68-6	Asbestos, Tremolite
77641-59-9		Asbestos	

BISPHENOL A (BPA) is used to manufacture polycarbonate (clear, hard) plastics and epoxy resins. The plastics are used in many consumer products, such as drink bottles, DVDs, eyeglass lenses, electronics, car parts, and other products that must not break easily. Epoxy resins are used for lining food cans and water pipes, and for many sales receipts. Most recent testing has shown the largest health-related concern to be potential impacts on the brains, behavior, and prostate glands of fetuses, infants, and small children. Most health organizations advise against the use of BPA for baby bottles and related products. BPA has also been found in breast milk.

- REF: <http://www.fda.gov/newsevents/publichealthfocus/ucm064437.htm>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
6386-73-8	3,3',5-tribromobisphenol A	68318-44-5	bisphenol A, epichlorohydrin polymer
29426-78-6	3,3'-dibromobisphenol A	68610-56-0	bisphenol A, epichlorohydrin polymer, diethylenetriamine adduct
6073-11-6	3-monobromobisphenol A	55818-57-0	bisphenol A-epichlorohydrin acrylate
104133-73-5	amines, tallow alkyl, reaction products with bisphenol A diglycidyl ether, ethoxylated	68609-08-5	cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-, reaction products with bisphenol A diglycidyl ether homopolymer
80-05-7	bisphenol A (BPA)	1478-61-1	bisphenol AF
2024-88-6	bisphenol A bischloroformate	30583-72-3	cyclohexanol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane
1675-54-3	bisphenol A diglycidyl ether	25068-38-6	epichlorohydrin-bisphenol A resin
25085-99-8	bisphenol A diglycidyl ether	68458-98-0	linseed oil, polymer with bisphenol A, formaldehyde, glycerol, rosin and tung oil
3253-39-2	bisphenol A dimethacrylate	181028-79-5	phosphoric trichloride, reaction products with bisphenol A and phenol
64401-02-1	bisphenol A ethoxylate diacrylate	42617-82-3	polyethylene glycol-bisphenol A-epichlorohydrin copolymer

CADMIUM. The US Department of Health and Human Services and the International Agency for Research on Cancer have determined that cadmium is a known human carcinogen associated with lung cancer. Additionally, acute and long-term exposures can lead to lung and kidney damage, bone loss, and hypertension. In sufficient quantities, cadmium is lethal. Cadmium's extreme toxicity means that overexposure can occur even when only trace amounts are present, such as during smelting and electroplating activities.

- REF: <http://www.inchem.org/documents/iarc/vol58/mono58-2.html>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
5743-04-4	Cadmium Acetate, Dihydrate	513-78-0	Cadmium Carbonate
10022-68-1	Cadmium Nitrate, 4-Hydrate	542-83-6	Cadmium Cyanide
10108-64-2	Cadmium Chloride, Anhydrous	543-90-8	Cadmium Acetate
10124-36-4	Cadmium Sulfate, Anhydrous	7440-43-9	Cadmium
1306-19-0	Cadmium Oxide	7789-42-6	Cadmium Bromide
1306-23-6	Cadmium Sulfide	7790-78-5	Cadmium Chloride, 2.5 Hydrate
17010-21-8	Cadmium Hexafluorosilicate	7790-79-6	Cadmium Fluoride
2223-93-0	Cadmium Stearate	7790-80-9	Cadmium Iodide
2420-98-6	Cadmium 2-Ethylhexanoate	7790-84-3	Cadmium Sulfate, Hydrate

CHLORINATED POLYETHYLENE AND CHLOROSULFONATED POLYETHYLENE are Persistent Organic Pollutant Source Materials: due to their carbon-chlorine bases, these products contribute to the creation of dioxins and furans at different points in their life cycle (often manufacturing and/or disposal). According to the World Health Organization, dioxins are some of the most potent toxins known to humans, with no known safe limit for exposure and a strong propensity for bioaccumulation. In addition, dioxins are highly persistent in the environment. Similarly, furans accumulate in animal fat, concentrating as they travel up the food chain. Non-chlorinated polyethylene products are readily available in many product categories.

- REF (dioxins): <http://www.who.int/mediacentre/factsheets/fs225/en/index.html>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
68037-39-8	Chlorosulfinated Polyethylene	6145-73-9	Tris(2-Chloropropyl) Phosphate
126-99-8	Chloroprene (Neoprene)	66108-37-0	Tris(2,3-Dichloro-1-Propyl) Phosphate
184963-09-5	Chloroprene (Neoprene)	63231-66-3	Chlorinated Polyethylene (Cpe)
9010-98-4	Neoprene	78-43-3	Tris(2,3-Dichloro-1-Propyl) Phosphate
115-28-6	Chlorendic Acid	76649-15-5	Bis(2-Chloro-1-Propyl) 1-Chloro-2-Propyl
115-96-8	Tris(2-Chloroethyl) Phosphate (Tcep)	76025-08-6	Bis(1-Chloro-2-Propyl) 2-Chloro-1-Propyl Phosphate
13560-89-9	Dechlorane Plus (Dp)	85535-84-8	Short Chain Chlorinated Paraffins (Sccp),
13674-84-5	Tris(1-Chloro-2-Propyl) Phosphate (Tcpp, Tmcp)	71011-12-6	Short Chain Chlorinated Paraffins (Sccp) - Alkanes, C12-13, Chloro



13674-87-8	Chlorinated Tris (Tdcpp, Tdcp)	64754-90-1	Chlorinated Polyethylene (Cpe, Tyrin)
40120-74-9		Tris(1,3-Dichloropropyl) Phosphate	

CHLOROENZENES are used primarily as a solvent, a degreaser for auto parts, and a chemical intermediary for making other chemicals, so exposures are primarily a risk to workers making or using it. Most exposures are through inhalation of fumes. Short-term exposure can cause headaches, sleepiness, nausea, numbness, muscle spasms, and in extreme cases, unconsciousness. Chronic (long-term) exposure can cause increased signs of neurotoxicity (numbness, etc.) and irritation of the upper respiratory tract. In animals, chronic exposure has also caused kidney and liver damage. Chlorobenzene is broken down by sun and bacteria in the environment and does not accumulate in the food chain.

- ○ REF: <https://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=488&tid=87>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
108-90-7	Chlorobenzene	634-66-2	1,2,3,4-Tetrachlorobenzene
118-74-1	Hexachlorobenzene	634-90-2	1,2,3,5-Tetrachlorobenzene
608-93-5	Pentachlorobenzene	95-94-3	1,2,4,5-Tetrachlorobenzene
106-46-7	1,4-Dichlorobenzene	108-70-3	1,3,5-Trichlorobenzene
25321-22-6	Dichlorobenzene (Mixed Isomers)	12002-48-1	Trichlorobenzene
541-73-1	1,3-Dichlorobenzene	120-82-1	1,2,4-Trichlorobenzene
95-50-1	1,2-Dichlorobenzene	87-61-6	1,2,3-Trichlorobenzene
12408-10-5		Tetrachlorobenzene	

CHLOROFLUOROCARBONS (CFCS) AND HYDROCHLOROFLUOROCARBONS (HCFCs). According to US EPA, the depletion of the Earth's protective ozone layer by chlorofluorocarbons (or CFCs) is responsible for an increased incidence of skin cancer, cataracts, impairment of human immune systems, and damage to wildlife. CFCs have been banned from production in the United States since 1995.

- ○ REF (CFC effects on ozone): http://www.epa.gov/ozone/science/sc_fact.html
- ○ REF (ozone depletion and human health): <http://www.who.int/globalchange/climate/summary/en/index7.html>

Hydrochlorofluorocarbons (HCFCs) are potent ozone-depleting compounds. While less destructive than the now-banned chlorofluorocarbons, HCFCs are targeted for gradual phaseout by the US EPA, with a total ban going into effect in the year 2030. According to US EPA, the depletion of the Earth's protective ozone layer is responsible for an increased incidence of skin cancer, cataracts, impairment of human immune systems, and damage to wildlife.

- ○ REF: <https://www.epa.gov/ods-phaseout>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
2354-06-5	Pentachlorotrifluoropropane (Cfc-213)	34077-87-7	Dichlorotrifluoroethane
134237-31-3	Pentachlorotrifluoropropane (Cfc-213 Isomer)	354-11-0	1,1,1,2-Tetrachloro-2-Fluoroethane (Hcfc-121A)
1599-41-3	1,2,2-Trichloro-1,1,3,3,3-Pentafluoropropane	354-14-3	Tetrachlorofluoroethane (Hcfc-121)



1652-81-9	1,1,3-Trichloro-1,2,2,3,3-Pentafluoropropane (Cfc-215)	354-21-2	Trichlorodifluoroethane (Hcfc-122)
2268-46-4	1,1,1,3-Tetrachloro-2,2,3,3-Tetrafluoropropane (Cfc-214Cb)	354-23-4	1,2-Dichloro-1,1,2-Trifluoroethane
29255-31-0	Tetrachlorotetrafluoropropane (Cfc-214)	(Hcfc-123A) 354-25-6	1-Chloro-1,1,2,2-Tetrafluoroethane (Hcfc-124A)
3182-26-1	Hexachlorodifluoropropane (Cfc-212)	359-28-4	Trichlorofluoroethane (Hcfc-131)
353-59-3	Bromochlorodifluoromethane (Cfc-12B1)	420-44-0	2-Chloro-2-Fluoropropane (Hcfc-271B)
354-56-3	Pentachlorofluoroethane (Cfc-111)	420-97-3	Dichlorofluoropropane (Hcfc-261)
354-58-5	Trichlorotrifluoroethane (Cfc-113 Isomer)	420-99-5	1-Chloro-2,2-Difluoropropane (Hcfc-262Ca)
374-07-2	1,1,1,2-Tetrafluoro-2,2-Dichloroethane (Cfc-114A)	421-41-0	Monochlorotetrafluoropropane (Hcfc-251)
422-78-6	Heptachlorofluoropropane (Cfc-211)	421-94-3	Pentachlorofluoropropane (Hcfc-231)
422-86-6	Chloroheptafluoropropane (Cfc-217)	421-99-8	1,1,3-Trichloro-1,2,2-Trifluoropropane (Hcfc-233Cb)
4259-43-2	Trichloropentafluoropropane (Cfc-215)	422-26-4	Hexachlorofluoropropane (Hcfc-221)
661-97-2	Dichlorohexafluoropropane (Cfc-216)	422-44-6	1,2-Dichloro-1,1,2,3,3-Pentafluoropropane (Hcfc-225Bb)
75-63-8	Bromotrifluoromethane (Cfc-13B1)	422-48-0	2,3-Dichloro-1,1,1,2,3-Pentafluoropropane (Hcfc-225Ba)
75-69-4	Trichlorofluoromethane (Cfc-11)	422-49-1	Pentachlorodifluoropropane (Hcfc-222)
75-71-8	Dichlorodifluoromethane (Cfc-12)	422-52-6	Tetrachlorotrifluoropropane (Hcfc-223)
75-72-9	Chlorotrifluoromethane (Cfc-13)	422-54-8	Trichlorotetrafluoropropane (Hcfc-224)
76-11-9	1,1,1,2-Tetrachloro-2,2-Difluoroethane (Cfc-112A)	422-55-9	Chloro-1,1,2,2,3,3-Hexafluoropropane (Hcfc-226Cb)
76-12-0	1,1,2,2-Tetrachloro-1,2-Difluoroethane (Cfc-112)	422-56-0	Dichloropentafluoropropane (Hcfc-225Ca)
76-13-1	1,1,2-Trichlorotrifluoroethane (Cfc-113)	425-94-5	Dichlorotetrafluoropropane (Hcfc-234)
76-14-2	Dichlorotetrafluoroethane (Cfc-114)	430-55-7	Monochlorofluoropropane (Hcfc-271)
76-15-3	Chloropentafluoroethane (Cfc-115)	430-57-9	1,2-Dichloro-1-Fluoroethane (Hcfc-141)
76-18-6	2-Chloro-1,1,1,2,3,3,3-Heptafluoropropane (Cfc-217Ba)	431-06-1	1,2-Dichloro-1,2-Difluoroethane (Hcfc-132)
1112-14-7	1,1,3,3-Tetrachloro-2,2-Difluoropropane (Hcfc-232Ca)	431-86-7	1,2-Dichloro-1,1,3,3,3-Pentafluoropropane (Hcfc-225Da)



111512-56-2	1,1-Dichloro-1,2,3,3,3-Pentafluoropropane (Hcfc-225Eb)	431-87-8	Monochlorohexafluoropropane (Hcfc-226)
116890-51-8	Dichlorotrifluoropropane (Hcfc-243)	460-35-5	Monochlorotrifluoropropane (Hcfc-253B)
127564-83-4	Dichlorotetrafluoropropane (Hcfc-234)	460-63-9	Trichlorodifluoropropane (Hcfc-242)
127564-90-3	Trichlorodifluoropropane (Hcfc-242)	460-69-5	Dichlorotrifluoropropane (Hcfc-243)
127564-92-5	Dichloropentafluoropropane	460-89-9	Tetrachlorodifluoropropane (Hcfc-232)
128903-21-9	2,2-Dichloro-1,1,1,3,3-Pentafluoropropane (Hcfc-225Aa)	460-92-4	Monochloropentafluoropropane (Hcfc-235)
134190-49-1	Tetrachlorofluoropropane (Hcfc-241)	593-70-4	Monochlorofluoromethane (Hcfc-31)
134190-50-4	Monochlorotetrafluoropropane (Hcfc-244)	507-55-1	Dichloropentafluoropropane (Hcfc-225Cb)

CHLOROPRENE (NEOPRENE) is a Persistent Organic Pollutant Source Material. Due to its carbon-chlorine base, chloroprene contributes to the creation of dioxins at different points in its life cycle (often manufacturing and/or disposal). According to the World Health Organization, dioxins are some of the most potent toxins known to humans, with no known safe limit for exposure and a strong propensity for bioaccumulation. In addition, dioxins are highly persistent in the environment.

- ○ REF (dioxins) :

<http://www.who.int/mediacentre/factsheets/fs225/en/index.html>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
126-99-8	Chloroprene (Neoprene)	9010-98-4	Neoprene
184963-09-5		Chloroprene (Neoprene)	

CHROMIUM VI. Although chromium is a naturally occurring element and chromium III (trivalent chrome) is an essential nutrient, chromium VI (hexavalent chrome) can cause serious health issues, especially for factory workers who can inhale or ingest it during manufacturing. There has been concern about it in drinking water and, lacking EPA maximum allowable levels, the State of California set a public health goal for it. Chromium VI is used primarily for chrome plating of metals for decorative or protective finishes, making stainless steel, leather tanning, anti-corrosive agents for paints, and in textile dyes and pigments. Long-term or high-level exposure through inhalation can cause nasal irritation and ulcers, breathing problems, and nasal and lung cancer in unprotected workers. Ingestion can cause anemia and/or stomach tumors. Skin contact can cause skin ulcers and allergic reactions.

- ○ REF : <https://www.osha.gov/SLTC/hexavalentchromium/>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
7775-11-3	Sodium Chromate	14307-35-8	Lithium Chromate
7789-06-2	Strontium Chromate	14977-61-8	Chromium Oxochloride
7789-09-5	Ammonium Dichromate	18454-12-1	Lead Chromate Oxide
10294-40-3	Barium Chromate	18540-29-9	Chromium (Vi)
1333-82-0	Chromium (Vi) Oxide	37300-23-5	Zinc Chromate With Zinc Hydroxide And Chromium Oxide (9:1)
1344-38-3	Basic Lead Chromate	7738-94-5	Chromic Acid

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13477-01-5	Barium Dichromate	7778-50-9	Potassium Dichromate
13530-65-9	Zinc Chromate	7788-98-9	Ammonium Chromate
13765-19-0	Calcium Chromate	7789-00-6	Potassium Chromate
13843-81-7	Lithium Dichromate (Vi)	7789-12-0	Sodium Dichromate

FORMALDEHYDE (ADDED) is classified by the International Agency for Research on Cancer and the State of California as a known human carcinogen. Common health effects at low levels of exposure to this volatile organic compound include irritation and sensitization, and the compound also acts as an asthma trigger. Long-term exposure is associated with nasal cancers and leukemia.

- ○ REF: <http://www.cancer.gov/cancertopics/factsheet/risk/formaldehyde>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
9003-08-1	Melamine Formaldehyde	30525-89-4	Paraformaldehyde
9011-05-6	Urea Formaldehyde	30704-64-4	Formaldehyde, Polymer With 4-(1,1-Dimethylethyl)Phenol, Methyloxirane And Oxirane (9Ci)
9084-06-4	Sodium Polynaphthalenesulfonate	37293-74-6	Naphthalenesulfonic Acid, Formaldehyde Polymer, Calcium Salt
107-16-4	Formaldehyde Cyanohydrin	50-00-0	Formaldehyde
120712-84-7	Formaldehyde, Polymer With Phenol, Potassium Salt	68002-19-7	Butylated Polyoxymethylene Urea
1338-51-8	4-Toluenesulfonamide Formaldehyde	68002-20-0	Formaldehyde, Melamine Polymer, Methylated
24969-11-7	Resorcinol Formaldehyde	68003-26-9	Cresol Formaldehyde
25035-71-6	Toluenesulfonamide Formaldehyde	68082-92-8	Rosin, Formaldehyde, Fumaric Acid Polymer, Potassium Salt
25036-13-9	Melamine-Urea-Formaldehyde (Muf)	68585-23-9	Phenol Formaldehyde Polymer Hexamethylenetetramine Cross-Linked
25085-50-1	P-Tert-Butylphenol Formaldehyde	68610-07-1	Formaldehyde, Polymers With Isobutyleneated Phenol
25104-55-6	Urea Phenol Formaldehyde	68611-64-3	Formaldehyde, Urea Adduct
25212-25-3	Urea Extended Phenol-Melamine Formaldehyde Resin	75199-12-1	Benzenesulfonic Acid, 4-Hydroxy-, Polymer With Formaldehyde And 4,4'-Sulfonylbis(Phenol), Sodium Salt (9Ci)
25986-71-4	Phenol-Resorcinol-Formaldehyde Resin (Prf)	870-72-4	Formaldehyde, Compd With Monosodium Sulfite (1:1)
26139-75-3	Xylene Formaldehyde	9003-35-4	Phenol Formaldehyde
27967-29-9	Ammonia-Urea-Formaldehyde	9069-79-8	Naphthalenesulfonic Acid, Polymer With Formaldehyde, Potassium Salt
28064-14-4	Phenol, Polymer With Formaldehyde, Glycidyl Ether	9069-80-1	Naphthalenesulfonic Acid, Formaldehyde Polymer, Ammonium Salt



29690-82-2	O-Cresol Formaldehyde Epoxy	94645-56-4	Melamine Formaldehyde
27967-29-9		Ammonia - Urea Formaldehyde	

HALOGENATED FLAME RETARDANTS (HFRS) are a broad class of flame retardants containing chlorine or bromine that have aroused concern due to their exponential accumulation in human beings in recent years. HFRs are persistent bioaccumulative toxins, meaning that they accumulate in organisms and the broader environment, often reaching alarmingly high concentrations as they travel up the food chain. In addition, certain halogenated products have shown evidence of harm to humans and other animal species. According to the Washington State Department of Ecology, for example, the toxicity endpoints of concern for Penta-PBDE include adverse effects on neurological development, reproduction, thyroid hormone disruption and possible liver toxicity.

HFRs include PBDE, TBBPA, HBCD, Deca-BDE, TCPP, TCEP, Dechlorane Plus, and other retardants with bromine or chlorine. Boron is not an HFR and is allowed. Many products, including virtually all foam insulations, contain HFRs.

- REF: <http://www.ecy.wa.gov/biblio/0507048.html>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
2052-07-5	Bromobiphenyl	446255-22-7	2,2',3,3',4,5',6-Heptabromodiphenyl Ether (Bde-175)
1163-19-5	Decabromodiphenyl Ether (Decabde Bde-209)	49690-94-0	Tribromodiphenyl Ether
118-79-6	2,4,6-Tribromophenol	51936-55-1	Hexachlorocyclopentadienyl-Dibromocyclooctane (Dbhc-Tctd Or Hcdbco)
125997-20-8	Phosphoric Acid, Mixed 3-Bromo-2,2-Dimethylpropyl And 2-Bromoethyl And 2-Chloroethyl Esters	5412-25-9	Bis(2,3-Dibromopropyl)Phosphate
126-72-7	Tris (2,3-Dibromopropyl) Phosphate	5436-43-1	2,2',4,4'-Tetrabromodiphenyl Ether (Bde-47)
134237-50-6	Alpha-Hexabromocyclododecane (Α-Hbcd)	57137-10-7	Tribromostyrene
134237-51-7	Beta-Hexabromocyclododecane (ÃžÃ²-Hbcd)	58965-66-5	Tetradecabromo (P-Diphenoxybenzene)
134237-52-8	Gamma-Hexabromocyclododecane (ÃžÃ³-Hbcd)	59080-40-9	2,4,5,2',4',5'-Hexabromobiphenyl
13654-09-6	Decabromobiphenyl	59447-57-3	Pentabromo-Benzyl-Acrylate, Polymer
138257-18-8	Cyclododecane, 1,2,5,6,9,10-Hexabromo-, (1R,2R,5R,6S,9R,10S)-	60044-24-8	Tetrabromobiphenyl
148993-99-1	Dibromostyrene Copolymer (Firemaster Cp44-Hf & Pbs-64Hw)	60348-60-9	2,2',4,4',5-Pentabromodiphenyl Ether (Bde-99)
182346-21-0	2,2',3,4,4'-Pentabromodiphenyl Ether (Bde 85)	632-79-1	Tetrabromophthalic Anhydride



183658-27-7	2-Ethylhexyl-2,3,4,5-Tetrabromobenzoate (Tbb Or Eh-Tbb)	63936-56-1	Nonabromodiphenyl Ether (Nonabde)
189084-64-8	2,2',4,4',6-Pentabromodiphenyl Ether (Bde-100)	67888-96-4	2,2',4,5,5'-Pentabromobiphenyl
189084-68-2	2,2',3,4',5,6'-Heptabromodiphenyl Ether (Bde-183)	68631-49-2	2,2',4,4',5,5'-Hexabromodiphenyl Ether (Bde-153)
19186-97-1	Tris (Tribromoneopentyl) Phosphate	67990-32-3	Phenol, 2,4,6-Tribromo-, Carbonate (2:1)
20566-35-2	2-Hydroxy-Propyl-2-(2-Hydroxy-Ethoxy)-Ethyl-Tbp	68928-70-1	2,2'-[1-(1-Methylethylidene)Bis(2,6-Dibromo-4,1-Phenylene)]Heptabromodiphenyl Ether (Heptabde)
207122-15-4	2,2',4,4',5,6'-Hexabromodiphenyl Ether (Bde-154)	68928-80-3	2,4,6-Tribromophenyl Terminated Carbonate Oligomer
207122-16-5	2,2',3,4,4',5',6-Heptabromodiphenyl Ether (Octabde Bde-183)	71342-77-3	1,2-Benzenedicarboxylic Acid, 3,4,5,6-Tetrabromo-, Mixed Esters With Diethylene Glycol And Propylene Glycol
21850-44-2	Tetrabromobisphenol A Bis(2,3-Dibromopropyl) Ether (Tbbpa-Dbpe)	77098-07-8	Tetrabromobisphenol A (Tbbpa)
25327-89-3	Tetrabromobisphenol A Diallyl Ether (Tbbpa-Dae)	79-94-7	Decabromodiphenylethane (Dbdpe)
25357-79-3	Disodium Tetrabromophthalate	84852-53-9	Pentabromoethylbenzene (Pbeb)
25495-98-1	Hexabromocyclododecane (Hbcd)	85-22-3	Hexabromobenzene (Hbb)
25637-99-4	Hexabromocyclododecane (Hbcd, Hbccd)	87-82-1	Pentabromotoluene (Pbt)
26040-51-7	Bis(2-Ethyl-1-Hexyl)Tetrabromophthalate (Tbph Or Behtbp)	87-83-2	Benzene, Ethenyl-, Homopolymer, Brominated Dibromobiphenyl
3194-55-6	Hexabromocyclododecane (Hbccd)	88497-56-7	Carbonic Dichloride, Polymer With 4,4'-(1-Methylethylidene)Bis(2,6-Dibromophenol) And Phenol Chlorogenic Acid
32534-81-9	Pentabromodiphenyl Ether (Pentabde)	92-86-4	Tris(2-Chloroethyl) Phosphate (Tcep)
32536-52-0	Octabromodiphenyl Ether (Octabde)	94334-64-2	Dechlorane Plus (Dp)
32588-76-4	Ethylene Bis(Tetrabromophthalimide) (Btbpie)	115-28-6	Tris(1-Chloro-2-Propyl)Phosphate (Tcpp, Tmcp)
3278-89-5	2,4,6-Tribromophenyl Allyl Ether (Tbp-Ae Or Att)	115-96-8	Chlorinated Tris (Tdcpp, Tdcp)
3296-90-0	Pentaerythritol Dibromide	13560-89-9	
3322-93-8	Tetrabromoethylcyclohexane [Tbech]	13674-84-5	
35109-60-5	2,3-Dibromopropyl-2,4,6-Tribromophenyl Ether (Dpte Or Tbp-Dbpe)	13674-87-8	
36355-01-8	Hexabromobiphenyl	40120-74-9	Tris(1,3-Dichloropropyl) Phosphate

36483-60-0	Hexabromodiphenyl Ether (Hexabde)	6145-73-9	Tris(2-Chloropropyl) Phosphate
37853-59-1	1,2-Bis(2,4,6-Tribromophenoxy)Ethane (Btbpe))	66108-37-0	Tris(2,3-Dichloro-1-Propyl)Phosphate
38051-10-4	Tetrakis(2-Chloroethyl) Dichloroisopentylidiphosphate (V6)	71011-12-6	Short Chain Chlorinated Paraffins (Sccp) - Alkanes, C12-13, Chloro
40088-47-9	Tetrabromodiphenyl Ether (Tetrabde Bde-47)	76025-08-6	Bis(1-Chloro-2-Propyl) 2-Chloro-1-Propyl Phosphate
41318-75-6	2,4,4'-Tribromodiphenyl Ether (Bde-28)	76649-15-5	Bis(2-Chloro-1-Propyl) 1-Chloro-2-Propyl)
4162-45-2	Bis(2-Hydroxyethyl Ether) (Tbbpa)]	78-43-3	Tris(2,3-Dichloro-1-Propyl)Phosphate
85535-84-8		Short Chain Chlorinated Paraffins (Sccp), C10-13	

LEAD (ADDED). According to the Agency for Toxic Substances and Disease Registry, the environmental levels of lead have increased more than 1000-fold over the last three centuries, due almost exclusively to human activities. Lead exposure is damaging to virtually every organ and system in the human body, but is particularly damaging to the brain and central nervous system—profoundly so for young children and developing fetuses. Lead exposure is correlated with decreased IQ and delayed learning in children; scientific research has identified no safe level of lead exposure, and effects are irreversible.

- REF: <http://www.who.int/mediacentre/factsheets/fs379/en/>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
10031-13-7	Lead Arsenite	17570-76-2	Lead(ii) Methanesulphonate
10099-74-8	Lead Nitrate	17976-43-1	Cyclo-Di-:-Oxo(-:Phthalato)Trilead
10101-63-0	Lead Iodide	20837-86-9	Lead Cyanamidate
11113-70-5	Chromium Lead Silicate	25808-74-6	Lead Fluorosilicate
11120-22-2	Lead Silicate	301-04-2	Lead Acetate
12036-76-9	Lead Oxide Sulfate (Pb2O(So4))	51404-69-4	Acetic Acid, Lead Salt, Basic
12060-00-3	Lead Titanium Oxide (Pbtio3)	546-67-8	Lead Tetraacetate
12065-90-6	Lead Oxide Sulfate (Pb5O4(So4))	592-87-0	Lead Thiocyanate
12141-20-7	Lead Oxide Phosphonate (Pb3O2(Hpo3))	598-63-0	Lead Carbonate
12202-17-4	Lead Oxide Sulfate (Pb4O3(So4))	6080-56-4	Lead Acetate, Trihydrate
12578-12-0	Dioxobis(Stearato)Trilead	62229-08-7	Sulfurous Acid, Lead Salt, Dibasic
12656-85-8	Lead Chromate Molybdate Sulfate Red	68784-75-8	Silicic Acid (H2Si2O5), Barium Salt (1:1), Lead-Doped
1344-37-2	Lead Sulfochromate Yellow (C.I. Pigment Yellow 34)	69011-06-9	(1,2-Benzenedicarboxylato(2-))Dioxotrilead
1314-41-6	Lead Oxide, Red	7428-48-0	Lead Stearate
1314-87-0	Lead Sulfide	7439-92-1	Lead
1317-36-8	Lead Oxide (Litharge)	7446-14-2	Lead Sulphate
1319-46-6	Lead Sub-Carbonate	7446-27-7	Lead Phosphate



1335-32-6	Lead Sub-Acetate	7758-95-4	Lead Chloride
13424-46-9	Lead Azide	7758-97-6	Lead Chromate
1309-60-0	Lead Dioxide	7783-46-2	Lead Fluoride
13814-96-5	Lead Fluoborate	7784-40-9	Lead Arsenate
14255-04-0	Lead-210	91031-62-8	Fatty Acids, C16-18, Lead Salts
15067-28-4	Lead, Isotope Of Mass 214	75-74-1	Tetramethyl Lead
15245-44-0	1,3-Benzenediol, 2,4,6-Trinitro-, Lead Salt	78-00-2	Tetraethyl Lead

MERCURY. According to the World Health Organization, mercury produces a suite of ill effects, including harm to the nervous, digestive, and immune systems, and even death. WHO lists children and developing fetuses as especially vulnerable to damage from mercury. Mercury bioaccumulates in the environment, eventually reaching concentrations thousands of times more intense than ambient levels.

- ○ REF : <http://www.epa.gov/hg/effects.htm>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
10045-94-0	Mercuric Nitrate	1336-96-5	Mercury Naphthenate
10112-91-1	Dimercury Dichloride	14024-55-6	Mercury Pentanedione
10124-48-8	Mercury, Ammoniated	2597-97-9	Methylmercury Nitrile
103-27-5	Phenyl Mercuric Propionate	3626-13-9	Methylmercury Benzoate
10415-75-5	Mercurous Nitrate	588-66-9	Mercury Phenate
115-09-3	Methyl Mercury Chloride	86-85-1	Methylmercury 8-Quinolinolate
1184-57-2	Hydroxymethyl Mercury	7546-30-7	Mercurous Chloride
123-88-6	2-Methoxyethylmercury Chloride	100-56-1	Phenylmercuric Chloride
1335-31-5	Dimercury Dicyanide Oxide	100-57-2	Phenylmercury Hydroxide
1344-48-5	Mercuric Sulfide	102-98-7	Dihydrogen [Orthoborato(3-)-O]Phenylmercurate(2-)
151-38-2	Methoxyethylmercuric Acetate	104-60-9	Mercury, (9-Octadecenoato-O)Phenyl-, (Z)-
15829-53-5	Mercurous Oxide	122-64-5	Phenylmercuric Lactate
1600-27-7	Mercuric Acetate	13302-00-6	Phenylmercuric-2-Ethylhexonate
21908-53-2	Mercuric Oxide	16751-55-6	Phenylmercuric Thiocyanate
2235-25-8	Ethylmercuric Phosphate	17140-73-7	Hydroxymercuri-O-Nitrophenol
22967-92-6	Methyl Mercury (Mehg)	2279-64-3	Phenylmercuriurea
31224-71-2	Phenylmercuric Borate	22894-47-9	Phenylmercuric Formamide
502-39-6	Methylmercuric Dicyanamide	23319-66-6	Phenylmercuric Threthanolammonium Lactate
592-04-1	Mercuric Cyanide	2597-95-7	Methylmercury 2,3 Dihydroxypropyl Mercaptide
592-85-8	Mercury Thiocyanate	26114-17-0	Phenylmercuric-8-Quinolinolate
593-74-8	Dimethyl Mercury	28086-13-7	Phenylmercuric Salicylate
62-38-4	Phenylmercuric Acetate	31632-68-5	Phenylmercuric Napthenate
627-44-1	Ethylmercury	32407-99-1	Phenylmercury Dimethyldithiocarbamate



628-86-4	Fulminate De Mercure	4665-55-8	Mercury, (Acetato-O)(2-Hydroxyethyl)-
7439-97-6	Mercury	53404-67-4	Phenylmercuric Ammonium Acetate
7487-94-7	Mercuric Chloride (Hgcl2)	53404-68-5	Phenylmercuric Ammonium Propionate
7774-29-0	Mercuric Iodide, Red	53404-69-6	Phenylmercuric Carbonate
7782-86-7	Mercurous Nitrate, Monohydrate	53404-70-9	Phenylmercuric Monoethanol Ammonium Lactate
7783-35-9	Mercuric Sulfate	54-64-8	Thimerosal
7789-47-1	Mercuric Bromide	55-68-5	Phenylmercury Nitrate
108-07-6	Methylmercury Acetate	5822-97-9	Phenylmercuric Monoethanol Ammonium Acetate
1191-80-6		Mercury Dioleate	

POLYCHLORINATED BIPHENYLS (PCBs) manufacturing in the United States stopped in 1977 but the compound is long-lasting in the environment (mostly in soils) around old manufacturing and disposal sites, in old electrical transformers and electrical devices, and in fish and their predators. PCBs make good coolants, lubricants, and insulators for electrical equipment of all kinds. They are known to cause cancer in animals and are probable human carcinogens, but exposure tends to be limited to people who worked in the electrical industry many years ago, lived close to manufacturing sites, and/or ate contaminated fish. Health effects also include acne-like skin conditions and neurobehavioral and immunological changes in children.

- REF: <https://www.atsdr.cdc.gov/csem/csem.asp?csem=30&po=10>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
11096-82-5	Aroclor 1260	51908-16-8	2,2',3,4',5,5'-Hexachlorobiphenyl
11097-69-1	Aroclor 1254	52663-58-8	2,3,4',6-Tetrachlorobiphenyl
11100-14-4	Aroclor 1268	52663-59-9	2,2',3,4-Tetrachlorobiphenyl
11104-28-2	Aroclor 1221	52663-60-2	2,2',3,3',6-Pentachlorobiphenyl
11141-16-5	Aroclor 1232	52663-61-3	2,2',3,5,5'-Pentachlorobiphenyl
12672-29-6	Aroclor 1248	52663-62-4	2,2',3,3',4-Pentachlorobiphenyl
12674-11-2	Aroclor 1016	52663-63-5	2,2',3,5,5',6-Hexachlorobiphenyl
12767-79-2	Aroclor (Unspecified)	52663-64-6	2,2',3,3',5,6,6'-Heptachlorobiphenyl
13029-08-8	2,2'-Dichlorobiphenyl (Pcb-4)	52663-65-7	2,2',3,3',4,6,6'-Heptachlorobiphenyl
1336-36-3	3,3',4,4',5,5'-Hexachlorobiphenyl	52663-66-8	2,2',3,3',4,5'-Hexachlorobiphenyl
147601-87-4	Aroclor 1210	52663-67-9	2,2',3,3',5,5',6-Heptachlorobiphenyl



151820-27-8	Aroclor 1216	52663-68-0	2,2',3,4',5,5',6-Heptachlorobiphenyl (Pcb-187)
15862-07-4	2,4,5-Trichlorobiphenyl (Pcb-29)	52663-69-1	2,2',3,4,4',5',6-Heptachlorobiphenyl
15968-05-5	2,2',6,6'-Tetrachlorobiphenyl (Pcb-54)	52663-70-4	2,2',3,3',4,5,6'-Heptachlorobiphenyl
165245-51-2	Aroclor 1250	52663-71-5	2,2',3,3',4,4',6-Heptachlorobiphenyl (Pcb-171)
16605-91-7	2,3-Dichlorobiphenyl (Pcb-5)	52663-72-6	2,4,5,3',4',5'-Hexachlorobiphenyl
16606-02-3	2,4',5-Trichlorobiphenyl	52663-73-7	2,2',3,3',4,5,6,6-Octachlorobiphenyl
18259-05-7	2,3,4,5,6-Pentachlorobiphenyl (Pcb-116)	52663-74-8	2,2',3,3',4,5,5'-Heptachlorobiphenyl
2050-67-1	3,3'-Dichlorobiphenyl (Pcb-11)	52663-75-9	2,2',3,3',4,5,5',6'-Octachlorobiphenyl
2050-68-2	4,4'-Dichlorobiphenyl (Pcb-15)	52663-76-0	2,2',3,4,4',5,5',6-Octachlorobiphenyl
2051-24-3	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl (Pcb-209)	52663-77-1	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (Pcb-208)
2051-60-7	2-Chlorobiphenyl (Pcb-1)	52663-78-2	2,2',3,3',4,4',5,6-Octachlorobiphenyl
2051-61-8	3-Chlorobiphenyl (Pcb-2)	52663-79-3	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl (Pcb-207)
2051-62-9	4-Chlorobiphenyl (Pcb-3)	52704-70-8	2,2',3,3',5,6-Hexachlorobiphenyl (Pcb-134)
2136-99-4	2,2',3,3',5,5',6,6'-Octachlorobiphenyl (Pcb-202)	52712-04-6	2,2',3,4,5,5'-Hexachlorobiphenyl
2437-79-8	2,2',4,4'-Tetrachlorobiphenyl (Pcb-47)	52712-05-7	2,2',3,4,5,5',6-Heptachlorobiphenyl (Pcb-185)
25323-68-6	Tri-Pcb	52744-13-5	2,2',3,3',5,6-Hexachlorobiphenyl
25429-29-2	Penta-Pcb	53469-21-9	Aroclor 1242
25512-42-9	Di-Pcb	53555-66-1	3,4,5-Trichlorobiphenyl
25569-80-6	2,3'-Dichlorobiphenyl	53742-07-7	Nona-Pcb
26601-64-9	Hexa-Pcb	54230-22-7	2,3,4,6-Tetrachlorobiphenyl
26914-33-0	Tetrachlorobiphenyl	55215-17-3	2,2',3,4,6-Pentachlorobiphenyl (Pcb-88)
27323-18-8	Mono-Pcb	55215-18-4	2,2',3,3',4,5-Hexachlorobiphenyl (Pcb-129)
28655-71-2	Hepta-Pcb	55312-69-1	2,2',3,4,5-Pentachlorobiphenyl
2974-90-5	3,4'-Dichlorobiphenyl	55702-45-9	2,3,6-Trichlorobiphenyl
2974-92-7	3,4-Dichlorobiphenyl (Pcb-12)	55702-46-0	2,3,4-Trichlorobiphenyl (Pcb-21)
31508-00-6	2,3',4,4',5-Pentachlorobiphenyl (Pcb-118)	55712-37-3	2,3',4-Trichlorobiphenyl



32598-10-0	2,3',4,4'- Tetrachlorobiphenyl (Pcb-66)	55720-44-0	2,3,5-Trichlorobiphenyl
32598-11-1	2,3'4',5'- Tetrachlorobiphenyl (Pcb-70)	55722-26-4	Octachlorobiphenyl
32598-12-2	2,4,4',6'- Tetrachlorobiphenyl (Pcb-75)	56030-56-9	2,2',3,4,4',6'- Hexachlorobiphenyl
32598-13-3	3,3',4,4'- Tetrachlorobiphenyl (Pcb-77)	56558-16-8	2,2',4,6,6'- Pentachlorobiphenyl (Pcb-104)
32598-14-4	2,3,3',4,4'- Pentachlorobiphenyl (Pcb-105)	56558-17-9	2,3',4,4',6'- Pentachlorobiphenyl
32690-93-0	2,4,4',5'- Tetrachlorobiphenyl	56558-18-0	2,3',4,5',6'- Pentachlorobiphenyl
32774-16-6	3,3'4,4',5,5'- Hexachlorobiphenyl (Pcb-169)	57465-28-8	3,3',4,4',5'- Pentachlorobiphenyl (Pcb-126)
33025-41-1	2,3,4,4'- Tetrachlorobiphenyl (Pcb-60)	59291-64-4	2,2',3,4,4',6'- Hexachlorobiphenyl
33091-17-7	2,2',3,3',4,4',6,6'- Octachlorobiphenyl	59291-65-5	2,3',4,4',5'6'- Hexachlorobiphenyl
33146-45-1	2,6-Dichlorobiphenyl (Pcb-10)	60145-20-2	2,2'3,3',5'- Pentachlorobiphenyl (Pcb-83)
33284-50-3	2,4-Dichlorobiphenyl (Pcb-7)	60145-21-3	2,2',4,5',6'- Pentachlorobiphenyl
33284-52-5	3,3',5,5'- Tetrachlorobiphenyl (Pcb-80)	60145-22-4	2,2',4,4',5,6'- Hexachlorobiphenyl
33284-53-6	2,3,4,5-Tetrachlorobiphenyl (Pcb-61)	60233-24-1	2,3',4,6'- Tetrachlorobiphenyl
33284-54-7	2,3,5,6-Tetrachlorobiphenyl (Pcb-65)	60233-25-2	2,2',3,4',6'- Pentachlorobiphenyl
33979-03-2	2,2',4,4',6,6'- Hexachlorobiphenyl (Pcb-155)	61798-70-7	2,2',3,3',4,6'- Hexachlorobiphenyl
34883-39-1	2,5-Dichlorobiphenyl (Pcb-9)	62796-65-0	2,2',4,6'- Tetrachlorobiphenyl (Pcb-50)
34883-41-5	3,5-Dichlorobiphenyl (Pcb-14)	65510-44-3	2',3,4,4',5'- Pentachlorobiphenyl (Pcb-123)
34883-43-7	2,4'-Dichlorobiphenyl (Pcb-8)	65510-45-4	2,2',3,4,5'- Pentachlorobiphenyl (Pcb-86)
35065-27-1	2,2',4,4',5,5'- Hexachlorobiphenyl (Pcb-153)	68194-04-7	2,2',4,6'- Tetrachlorobiphenyl (Pcb-51)
35065-28-2	2,2',3,4,4',4',5'- Hexachlorobiphenyl (Pcb-138)	68194-05-8	2,2',3,4',6'- Pentachlorobiphenyl
35065-29-3	2,2',3,4,4',5,5'- Heptachlorobiphenyl (Pcb-180)	68194-06-9	2,2',4,5,6'- Pentachlorobiphenyl
35065-30-6	2,2',3,3',4,4',5'- Heptachlorobiphenyl	68194-07-0	2,2',3,4',5'- Pentachlorobiphenyl

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35693-92-6	2,4,6-Trichlorobiphenyl (Pcb-30)	68194-08-1	2,2',3,4',6,6'- Hexachlorobiphenyl
35693-99-3	2,2',5,5'- Tetrachlorobiphenyl (Pcb- 52)	68194-09-2	2,2',3,5,6,6'- Hexachlorobiphenyl
35694-04-3	2,2',3,3',5,5'- Hexachlorobiphenyl	68194-10-5	2,3,3',5',6- Pentachlorobiphenyl
35694-06-5	2,2',3,4,4',5- Hexachlorobiphenyl	68194-11-6	2,3,4',5,6- Pentachlorobiphenyl
35694-08-7	2,2',3,3',4,4',5,5'- Octachlorobiphenyl (Pcb- 194)	68194-12-7	2,3',4,5,5'- Pentachlorobiphenyl
36559-22-5	2,2',3,4'- Tetrachlorobiphenyl	68194-13-8	2,2',3,4',5,6- Hexachlorobiphenyl
CAS RN	Chemical Name	CAS RN	Chemical Name
37234-40-5	Aroclor 1231	68194-14-9	2,2',3,4,5',6- Hexachlorobiphenyl
37324-23-5	Aroclor 1262	68194-15-0	2,2',3,4,5,6'- Hexachlorobiphenyl
37680-65-2	2,2',5-Trichlorobiphenyl (Pcb-18)	68194-16-1	2,2',3,3',4,5,6- Heptachlorobiphenyl
37680-66-3	2,2',4-Trichlorobiphenyl	68194-17-2	2,2',3,3',4,5,5',6- Octachlorobiphenyl
37680-68-5	2,3',5'-Trichlorobiphenyl	69782-90-7	2,3,3',4,4',5'- Hexachlorobiphenyl
37680-69-6	3,3',4-Trichlorobiphenyl (Pcb-35)	69782-91-8	2,3,3',4',5,5',6- Heptachlorobiphenyl
37680-73-2	2,2',4,5,5'- Pentachlorobiphenyl (Pcb- 101)	7012-37-5	2,4,4'-Trichlorobiphenyl (Pcb-28)
38379-99-6	2,3'3,5,6- Pentachlorobiphenyl (Pcb- 95)	70362-41-3	2,3,3',4,5'- Pentachlorobiphenyl
38380-01-7	2,2'4,4',6- Pentachlorobiphenyl (Pcb- 99)	70362-45-7	2,2',3,6- Tetrachlorobiphenyl
38380-02-8	2,2',3,4,5'- Pentachlorobiphenyl (Pcb- 87)	70362-46-8	2,2',3,5- Tetrachlorobiphenyl
38380-03-9	2,3,3',4',6- Pentachlorobiphenyl (Pcb- 110)	70362-47-9	2,2',4,5- Tetrachlorobiphenyl
38380-04-0	2,2',3,4',5',6- Hexachlorobiphenyl (Pcb- 149)	70362-48-0	2,3',4',5'- Tetrachlorobiphenyl
38380-05-1	2,2',3,3',4,6'- Hexachlorobiphenyl	70362-49-1	3,3',4,5- Tetrachlorobiphenyl
38380-07-3	2,2',3,3',4,4'- Hexachlorobiphenyl (Pcb- 128)	70362-50-4	3,4,4',5- Tetrachlorobiphenyl (Pcb- 081)
38380-08-4	2,3,3',4,4',5- Hexachlorobiphenyl (Pcb- 156)	70424-67-8	2,3,3',5- Tetrachlorobiphenyl
38411-22-2	2,2',3,3',6,6'- Hexachlorobiphenyl (Pcb- 136)	70424-68-9	2,3,3',4,5'- Pentachlorobiphenyl
38411-25-5	2,2',3,3',4,5,6'- Heptachlorobiphenyl	70424-69-0	2,3,3',4,5- Pentachlorobiphenyl



38444-73-4	2,2',6-Trichlorobiphenyl	70424-70-3	2',3,4,5,5'- Pentachlorobiphenyl (Pcb-124)
38444-76-7	2,3',6-Trichlorobiphenyl	71328-89-7	Aroclor 1240
38444-77-8	2,4',6-Trichlorobiphenyl	73575-52-7	2,3',4,5'- Tetrachlorobiphenyl
38444-81-4	2,3',5-Trichlorobiphenyl	73575-53-8	2,3',4,5'- Tetrachlorobiphenyl
38444-84-7	2,3,3'-Trichlorobiphenyl (Pcb-20)	73575-54-9	2,2'3',6,6'- Pentachlorobiphenyl
38444-85-8	2,3',5-Trichlorobiphenyl (Pcb-26)	73575-55-0	2,2'3',5,6'- Pentachlorobiphenyl
38444-86-9	2',3,4-Trichlorobiphenyl (Pcb-33)	73575-56-1	2,2',3',5,6'- Pentachlorobiphenyl
38444-87-0	3,3',5-Trichlorobiphenyl	73575-57-2	2,2',3,4,6'- Pentachlorobiphenyl
38444-88-1	3,4',5-Trichlorobiphenyl	74338-23-1	2,3',5',6'- Tetrachlorobiphenyl
38444-90-5	3,4,4'-Trichlorobiphenyl	74338-24-2	2,3,3',4'- Tetrachlorobiphenyl
38444-93-8	2,3',3,3'- Tetrachlorobiphenyl (Pcb-40)	74472-33-6	2,3,3',6'- Tetrachlorobiphenyl
39485-83-1	2,2'4,4',6'- Pentachlorobiphenyl (Pcb-100)	74472-34-7	2,3,4',5'- Tetrachlorobiphenyl
39635-31-9	2,3,3',4,4',5,5'- Heptachlorobiphenyl	74472-35-8	2,3,3',4,6'- Pentachlorobiphenyl
39635-32-0	2,3,3',5,5'- Pentachlorobiphenyl	74472-36-9	2,3,3',5,6'- Pentachlorobiphenyl
39635-33-1	3,3',4,5,5'- Pentachlorobiphenyl	74472-37-0	2,3,4,4',5'- Pentachlorobiphenyl
39635-34-2	2,3,3',4',5,5'- Hexachlorobiphenyl	74472-38-1	2,3,4,4',6'- Pentachlorobiphenyl
40186-70-7	2,2',3,3',4,5',6'- Heptachlorobiphenyl	74472-39-2	2,3',4',5',6'- Pentachlorobiphenyl
40186-71-8	2,2',3,3',4,5',6,6'- Octachlorobiphenyl	74472-40-5	2,2',3,4,6,6'- Hexachlorobiphenyl
40186-72-9	2,2',3,3',4,4',5,5',6'- Nonachlorobiphenyl (Pcb-206)	74472-41-6	2,2',3,4',5,6'- Hexachlorobiphenyl
41411-61-4	2,2',3,4,5,6'- Hexachlorobiphenyl	74472-42-7	2,3,3',4,4',6'- Hexachlorobiphenyl
41411-62-5	2,3,3',4,5,6'- Hexachlorobiphenyl	74472-43-8	2,3,3',4,5',6'- Hexachlorobiphenyl
41411-63-6	2,3,4,4',5,6'- Hexachlorobiphenyl	74472-44-9	2,3,3',4',5,6'- Hexachlorobiphenyl
41411-64-7	2,3,3',4,4',5,6'- Heptachlorobiphenyl	74472-45-0	2,3,3',4',5',6'- Hexachlorobiphenyl
CAS RN	Chemical Name	CAS RN	Chemical Name
41464-39-5	2,2',3,5'- Tetrachlorobiphenyl (Pcb-44)	74472-46-1	2,3,3',5,5',6'- Hexachlorobiphenyl
41464-40-8	2,2',4,5'- Tetrachlorobiphenyl (Pcb-49)	74472-47-2	2,2',3,4,4',5,6'- Heptachlorobiphenyl
41464-41-9	2,2',5,6'- Tetrachlorobiphenyl (Pcb-53)	74472-48-3	2,2',3,4,4',6,6'- Heptachlorobiphenyl



41464-42-0	2,3,5,5'- Tetrachlorobiphenyl	74472-49-4	2,2',3,4,5,6,6'- Heptachlorobiphenyl
41464-43-1	2,3,3',4'- Tetrachlorobiphenyl	74472-50-7	2,3,3',4,4',5',6- Heptachlorobiphenyl
41464-46-4	2,3,4',6- Tetrachlorobiphenyl	74472-51-8	2,3,3',4,5,5',6- Heptachlorobiphenyl
41464-47-5	2,2',3,6'- Tetrachlorobiphenyl	74472-52-9	2,2',3,4,4',5,6,6'- Octachlorobiphenyl
41464-48-6	3,3',4,5'- Tetrachlorobiphenyl	74472-53-0	2,3,3',4,4',5,5',6- Octachlorobiphenyl
41464-49-7	2,3,3',5'- Tetrachlorobiphenyl	74487-85-7	2,2',3,4',5,6,6'- Heptachlorobiphenyl
41464-51-1	2,2',3,4',5'- Pentachlorobiphenyl	76842-07-4	2,3,3',4,5- Pentachlorobiphenyl
42740-50-1	2,2',3,3',4,4',5,6'- Octachlorobiphenyl	89577-78-6	Aroclor 1252

PERFLUORINATED COMPOUNDS (PFCs) are chemical compounds that exist in many variations with many uses, such as surface treatments to repel water and stains, acids used in chemistry and research, in the semiconductor industry, and in some medical imaging devices. Many of them are greenhouse gases and bioaccumulate in the environment, but are not stored in human body fat. Most exposure is from contaminated food or products that contain PFCs. Animal studies show endocrine disruption, immune function issues, liver and pancreas damage, and developmental problems.

- REF: http://www.niehs.nih.gov/health/materials/perflourinated_chemicals_508.pdf

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
1763-23-1	Perfluorooctanesulfonic Acid (Pfos, C-8)	423-50-7	Perfluorohexanesulfonyl Fluoride
2058-94-8	Perfluoroundecanoic Acid (Pfuno, C-11)	72629-94-8	Perfluorotridecanoic Acid (C-13)
307-34-6	Perfluorooctane (C-8)	86508-42-1	Perfluoro Compounds, C5-18
307-55-1	Perfluorododecanoic Acid (Pfdoa, Pfdoda, C-12)	2706-90-3	Perfluoropentanoic Acid (Pfpea, C-5)
335-67-1	Perfluorooctanoic Acid (Pfoa, C-8)	307-24-4	Perfluorohexanoic Acid (Pfhxa, C-6)
335-76-2	Perfluorodecanoic Acid (Pfdca, C-10)	375-22-4	Perfluorobutanoic Acid (Pfbca, C-4)
355-46-4	Perfluorohexanesulfonic Acid (Pfhxs, C-6)	375-73-5	Perfluorobutane Sulfonate (Pfbs C-4)
375-85-9	Perfluoroheptanoic Acid (Pfhpa C-7)	307-35-7	Perfluorooctanesulfonyl Fluoride (Pfosf, C-8)
375-95-1	Perfluorononanoic Acid (Pfnna, C-9)	3825-26-1	Ammonium Perfluorooctanoate (C-8)
376-06-7	Perfluorotetradecanoic Acid (C-14)	9002-84-0	Polytetrafluoroethylene (PTFE/Teflon)

PHTHALATES. Mounting evidence from animal studies show the hormone-disrupting potential of phthalates, prompting the National Research Council to urge the US Environmental Protection Agency to pursue a “cumulative risk assessment” of this class of chemicals to determine their interactivity. Testing by the Centers for Disease Control and Prevention shows that phthalates are nearly ubiquitous in the US population, with highest concentrations in women and in children aged 6 to 11 years. The endocrine



disrupting nature of phthalates has implications for childhood and reproductive development, as well as cancer incidence. The European Union and over a dozen countries have banned the use of phthalates in children's products, as has the State of California.

- ○ REF: https://toxtown.nlm.nih.gov/text_version/chemicals.php?id=24
- ○ REF (cumulative risk assessment): <http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=12528>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
117-81-7	Di(2-Ethylhexyl)Phthalate (Dehp)	53306-54-0	Dipropylheptyl Phthalate (Dphp)
117-82-8	Dimethoxyethyl Phthalate (Demp)	68515-42-4	Dialkyl(C7-11-Branched And Linear) Phthalate (Dhnup)
117-84-0	Di-N-Octyl Phthalate (Dnop)	68515-48-0	Diisononyl Phthalate (Dinp-1, Mixture Of Isomers As Manufactured)
119-06-2	Ditridecyl Phthalate (Dtdp/Ditp)	68515-49-1	Diisodecyl Phthalate (Didp)
131-11-3	Dimethyl Phthalate (Dmp)	71850-09-4	Diisohexyl Phthalate
131-16-8	Dipropyl Phthalate (Dpp)	71888-89-6	Diisoheptyl Phthalate (Dihp)
131-18-0	Di-N-Pentyl Phthalate (Dnpp)	84-61-7	Dicyclohexyl Phthalate
146-50-9	Diisohexyl Phthalate	84-66-2	Diethyl Phthalate (Dep)
16883-83-3	Texanol Benzyl Phthalate	84-69-5	Diisobutyl Phthalate (Dibp)
26761-40-0	Diisodecyl Phthalate (Didp)	84-74-2	Dibutyl Phthalate (Dbp)
27554-26-3	Diisooctyl Phthalate (Diop)	84-75-3	Di-N-Hexylphthalate (Dnhp)
28553-12-0	Diisononyl Phthalate (Dinp-2 Or Dinp-3, Mixture Of Isomers As Manufactured)	85-68-7	Butyl Benzyl Phthalate (Bbp)
3648-20-2	Diundecyl Phthalate (Dup)	96507-86-7	Diisoundecyl Phthalate (Diup)
4782-29-0		Tributyltin Phthalate	

POLYVINYL CHLORIDE (PVC), CHLORINATED POLYVINYL CHLORIDE (CPVC), POLYVINYLIDENE CHLORIDE (PVDC). PVC's vinyl chloride monomer building block is a known human carcinogen, according to the US Department of Health and Human Services. In addition, PVC is a Persistent Organic Pollutant Source Material. Due to its chlorine content, PVC often contains other Red List ingredients, such as cadmium, lead, and phthalates. The manufacture and disposal of PVC can result in the production of dioxins and disposal phases. Dioxins, specifically TCDD, accumulate in human and animal tissue and are associated with immune system impairment, damage to developing nervous systems, and damage to the endocrine and reproductive systems. TCDD is listed as a "known human carcinogen" by the International Agency for Research on Cancer.

- ○ REF: (dioxins) : <http://www.who.int/mediacentre/factsheets/fs225/en/index.html>
- ○ REF: https://toxtown.nlm.nih.gov/text_version/chemicals.php?id=84

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
68648-82-8	Chlorinated Polyvinyl Chloride (Cpvc)	25035-98-7	polyvinyl chloride-co-methyl acrylate
53306-54-0	Dipropylheptyl Phthalate (Dphp)	9002-85-1	Polyvinylidene Chloride



SHORT CHAIN CHLORINATED PARAFFINS (SCCPs) are most commonly used as lubricants and coolants in metal cutting and forming operations and are also used as secondary plasticizers and flame retardants in plastics, such as PVC. Human exposure can be occupational, via inhalation of metalworking mists, or through contaminated food and dermal contact. Environmental exposure is usually from manufacturing activities, such as production, disposal, incineration, spills into waterways, and sewage effluent. SCCPs are persistent and very bioaccumulative in sediment. They have been found in marine mammals, other biota, and human breast milk in both industrial and remote areas. Toxic effects on mammals can include liver, hormone, and kidney damage that over a long term could lead to cancer in those organs.

- REF: <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/short-chain-chlorinated-paraffins>

CAS RN	CHEMICAL NAME
71011-12-6	Short Chain Chlorinated Paraffins (Sccp) - Alkanes, C12-13, Chloro

VOLATILE ORGANIC COMPOUNDS (VOCs) are members of a large group of organic chemicals that can evaporate into the indoor air under normal temperature conditions and into the outdoor air, causing environmental impacts such as photochemical smog. Their health effects vary widely, from respiratory irritants to human carcinogens (such as formaldehyde), which is a concern since they are ingredients in many products in the built environment. On-site wet applied products (paints, adhesives, and sealants) are of particular concern because they can directly impact the health of installers who may not be using breathing or dermal protection, unlike in-factory wet applied materials that are (usually) applied with worker and environmental protections in place.

- REF: <http://www.epa.gov/iaq/voc2.html>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
107-46-0	Hexamethyldisiloxane (L2)	24270-66-4	1,1,2,3,3-Pentafluoropropane (Hfc-245Ea)
107-51-7	Octamethyltrisiloxane (L3)	353-36-6	Ethylfluoride (Hfc-161)
141-62-8	Decamethyltetrasiloxane (L4)	406-58-6	1,1,1,3,3-Pentafluorobutane (Hfc-365Mfc)
141-63-9	Dodecamethylpentasiloxane (L5)	431-31-2	1,1,1,2,3-Pentafluoropropane (Hfc-245Eb)
540-97-6	Dodecamethylcyclohexasiloxane (D6)	431-63-0	1,1,1,2,3,3-Hexafluoropropane (Hfc-236Ea)
541-02-6	Decamethylcyclopentasiloxane (D5)	460-73-1	1,1,1,3,3-Pentafluoropropane (Hfc-245Fa)
541-05-9	Hexamethylcyclotrisiloxane (D3)	679-86-7	1,1,2,2,3-Pentafluoropropane (Hfc-245Ca)
556-67-2	Octamethylcyclotetrasiloxane (D4)	690-39-1	1,1,1,3,3,3-Hexafluoropropane (Hfc-236Fa)
127-18-4	Tetrachloroethylene (Perchloroethylene)	71-55-6	1,1,1-Trichloroethane (Methyl Chloroform)
1615-75-4	1 Chloro-1-Fluoroethane (Hfc-151A)	75-09-2	Methylene Chloride (Dichloromethane)

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WOOD TREATMENTS CONTAINING CREOSOTE, ARSENIC OR PENTACHLOROPHENOL.

Many conventional wood treatments introduce a litany of human health and environmental problems. The traits that make wood treatments effective at retarding rot and insect damage are also effective at damaging many other forms of life. According to the US Department of Health and Human Services, creosote exposure is associated with skin and scrotum cancer in humans, and liver, kidney, and gestational problems in laboratory animals. Inorganic arsenic is not only an acute toxin; it is a known human carcinogen. Pentachlorophenol is linked to liver and immune system damage in humans, and reproductive and thyroid damage in laboratory animals.

- ○ REF: (creosote): <https://www.atsdr.cdc.gov/phs/phs.asp?id=64&tid=18>
- ○ REF: (arsenic): <https://www.atsdr.cdc.gov/phs/phs.asp?id=18&tid=3>
- ○ REF (pentachlorophenol): <https://www.atsdr.cdc.gov/phs/phs.asp?id=400&tid=70>

CAS RN	CHEMICAL NAME	CAS RN	CHEMICAL NAME
3687-31-8	Trilead Diarsenate	13464-58-9	Arsenous Acid
10103-50-1	Magnesium Arsenate	121-19-7	Roxarsone
10103-61-4	Copper Arsenate	58-36-6	10,10'-Bis(Phenoxyarsinyl) Oxide
10124-50-2	Potassium Arsenite (Ash3O4.Xk)	603-32-7	Triphenylarsine
12002-03-8	Cupric Acetoarsenite	64436-13-1	Arsenobetaine
1303-00-0	Gallium Arsenide	696-28-6	Dichlorophenylarsine
1303-28-2	Arsenic Pentoxide	8007-45-2	Coal Tar
1303-32-8	Arsenic Disulfide	8001-58-9	Creosote
1303-33-9	Arsenic Trisulfide	61789-28-4	Creosote Oil
1327-53-3	Arsenic Trioxide	70321-79-8	Creosote Oil
13464-38-5	Sodium Arsenate	90640-84-9	Creosote Oil, Acenaphthene Fraction
15606-95-8	Triethyl Arsenate	90640-85-0	Creosote Oil, Acenaphthene Fraction,
16102-92-4	Ammonium Copper Arsenate	70321-80-1	Acenaphthene-Free Creosote Oil, Low-Boiling Distillate
1668-00-4	Arsenazo lii	122384-77-4	Extract Residues (Coal), Creosote Oil Acid
17428-41-0	Arsenic V	92061-93-3	Residues (Coal Tar), Creosote Oil Distn.
22541-54-4	Arsenic lii	8021-39-4	Wood Creosote
22569-72-8	Arsenic (Trivalent)	55094-22-9	Dimethylarsinous Acid
32680-29-8	Ammonium Copper Arsenate - See 16102-92-4	65513-69-1	Monomethylarsonic Acid
52740-16-6	Calcium Arsenite	593-88-4	Trimethylarsine
7440-38-2	Arsenic	593-52-2	Monomethylarsane
7631-89-2	Sodium Arsenate (Ash3O4.Xna)	593-57-7	Dimethylarsane
7778-39-4	Arsenic Acid	6131-99-3	Arsine Oxide, Hydroxydimethyl-, Sodium Salt, Trihydrate
7778-44-1	Calcium Arsenate [2Ash3O4.2Ca]	917-76-0	Dimethylarsinic Acid
7784-34-1	Arsenic Trichloride	25400-23-1	Methylarsonous Acid
7784-41-0	Potassium Arsenate	4964-14-1	Trimethylarsine Oxide
7784-46-5	Sodium Arsenite	87-86-5	Pentachlorophenol
81334-34-1		Imazapyr (Arsenal)	