

## List of prohibited substances, chemicals

Substances in articles, materials and chemical products which are prohibited to bring into work area at LKAB.

### Definitions

Chemical products and goods are consisting of substances and are covered by the European and Swedish chemicals legislations. A chemical product can be consisting of one substance or of a mixture of several substances. Examples of substances are acetone, hydrochloric acid, acetic acid, ethanol and metals such as lead. Examples of mixtures / products are sealants, welding gases, gases, paints, concrete, cement, adhesives and cleaning agents.

Examples of products that are not chemical products are wet wipes, hygiene products and detergents using within normal consumption volumes, plastic hoses, welding wire / electrode, batteries, markers etc.

Natural metals which are including in this prohibition list may be found at levels close to average background levels.

For information on a product and its consisting substances, see sections 2 and 3 of the safety data sheets.

Substances	CAS #	Legislations, EU and Sweden	Examples, products
Acrylamide (monomer)	79-06-01	(EU) 1272/2008 Annex VI. (EU) 1907/2006 (REACH) Annex XIV. SFS 2008:245.	Precipitant. Synthesis Raw Material.
Anthracene oil	90640-80-5 90640-1-6 91995-15-2	(EU) 1272/2008 Annex VI. (EU) 1907/2006 (REACH) Annex XIV. SFS 2008:245.	Creosote for impregnating sleepers. Asphalt coating.
Arsenic (As) and arsenic compounds	All	(EU) 1272/2008 Annex VI. (EU) 1907/2006 (REACH) Annex XIV. SFS 2008:245.	Insecticide and pesticides. Pressure waterproofing of wood. (Bound in minerals and ores)
Benzene	71-43-2	(EU) 1272/2008 Annex VI. Permission for use according to KIFS 2017:7. Some exceptions according to MSBFS 2013:3. Fuel class 1 according to SFS 2011:319. Requirement for water protection areas according to NFS 2017:5.	Fuel (for internal combustion engines). Base oils. Adhesives, paints, lacquers, solvents and car care products.
Bisphenol A	80-05-7	(EU) 1272/2008 Annex VI. Restrictions according to Annex XVII (REACH) (EU)1907/2006. Permission for use according to KIFS 2017:7.	As antioxidant in rubber. Lubricant. Solvent in paints. Hardener in thermoset, eg epoxy. Insulating material for electricity. (Metal coating agent.). Stabilizer.
Lead (Pb) and lead compounds	All	(EU) 1272/2008 Annex VI. Exceptions according to Annex XVII:28, 29, 30 (REACH) (EU) 1907/2006, and 8-10 § SFS 2012:861. Permission for use according to KIFS 2017:7. Detonators regulated by directive 2011/65/EU and directive 2006/66/EU.	Car batteries and other accumulators. Ammunitions, fishing sinkers, electronics, weights, cable sheathing, metal alloys, additives in plastic, paint and rust protection.
Boric acid	10043-35-3 11113-50-1	(EU) 1272/2008 Annex VI. Permission for use according to (EU)1907/2006 Annex XIV and KIFS 2017:7.	Antiseptic solution, fire extinguishing material. Pesticides against insects, fungal infestation, rot, mold,

		Exceptions according to Annex XVII:28, 29, 30 (REACH) (EU) 1907/2006.	blight and algae on wood, stone or concrete. Wood preservatives.  Allowed if it is an additive in eye wash.
<b>Phthalates</b>			
-Benzyl butyl phthalate (BBP)	85-68-7	(EU) 1272/2008 Annex VI.	Products for flooring, wallpaper, cable, foil and woven plastic. Plasticizer in plastic, adhesives, rubber, paint (eg rust protection paint) and varnish. Binder. Sealants.
-Dibutyl phthalate (DBP)	84-74-2	Permission for use according to (EU)1907/2006 Annex XIV and KIFS 2017:7.	
-Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	Exceptions according to Annex XVII:28, 29, 30 (REACH) (EU) 1907/2006.	
-Di-isobutyl phthalate (DIBP)	84-69-5		
<b>Hexabromocyclododecane (HBCDD)</b>	25637-99-4 3194-55-6 134237-51-7 134237-50-6 134237-52-8	Export prohibition according to (EU) 649/2012 Annex V:1. Permission for use according to (EU)1907/2006 Annex XIV. Listed on Stockholm Convention, POP regulation.	Brominated flame retardant.
<b>Hexachlorobenzene (HCB)</b>	118-74-1	(EU) 1272/2008 Annex VI. Permission for use according to (EU)1907/2006 Annex XIV. Listed on Stockholm Convention, POP regulation	In ammunicions and synthetic rubber.
<b>Cadmium and cadmium compounds</b>	All	(EU) 1272/2008 Annex VI. Restrictions according to (EU)1907/2006 (REACH) Annex XVII:23. ECHA (EU) 1907/2006, candidate list. Permission for use according to KIFS 2017:7. Some exceptions for electrical and electronic equipment according to 8-10 § SFS 2012:861. Batteries with more than 0.025 weight percent cadmium regulated by SFS 2008:834.	Yellow colour and batteries. Corrosion protected surface treatment.
<b>Short chain chloroparaffins (SCCP)</b>	All eg 85535-84-8	Export prohibition according to (EU) 649/2012 Annex V:1. (EU) 1272/2008 Annex VI. ECHA (EU) 1907/2006, candidate list (PBT/vPvB).	Refrigerants and lubricants in sealants and paints and for metalworking. Plasticisers and flame retardants in rubber.
<b>Chromium (Cr) VI compounds</b>	All	(EU) 1272/2008 Annex VI. Permission for use according to KIFS 2017:7. Some exceptions for electrical and electronic equipment according to 8-10 § SFS 2012:861. Regulation for wood protection treatment according to NFS 2001:6 and NFS 2001:7.	Wood protection, corrosion protection. Cement, work gloves, leather goods (can be converted from chrome (III) and electronics.
<b>Mercury (Hg) and mercury compounds</b>	All	(EU) 1272/2008 Annex VI. Exceptions according to Annex XVII:28, 29, 30 (REACH) (EU) 1907/2006. Restrictions according to (EU)1907/2006 (REACH) Annex XVII:18a. Prohibited in Sweden according to regulation 1998:994. Exceptions according to KIFS 2017:7. Some exceptions for electrical and electronic equipment according to 8-10 § SFS 2012:861.	Low energy lamps and batteries.
<b>Sodium borates</b>	1303-96-4 12179-04-3 1330-43-4	(EU) 1272/2008 Annex VI. Permission for use according to (EU)1907/2006 Annex XIV and KIFS 2017:7. Exceptions according to (EG) 1907/2006 Annex XVII:28, 29, 30. ECHA (EU) 1907/2006, candidate list. Regulation for wood protection treatment according to NFS 2001:6 and NFS 2001:7.	Flux for brazing and dipping. Detergent, "scrub sand". Buffer solutions. Adhesives. Degreasers. Preservatives and wood preservatives. Corrosion inhibitors.
<b>Nonylphenol</b>	All, eg 25154-52-3 104-40-5 90481-04-2 84852-15-3	(EU) 1272/2008 Annex VI. ECHA (EU) 1907/2006, candidate list. Seveso according to SFS 2015:236 and MSBFS 2015:8.	Floor coverings material. Hardener for paint and plastic. Surfactants in eg cleaning agents. In rust-proof paint and lacquer.

<b>Ethoxylated nonylphenol</b>	All, eg 26027-38-3 9016-45-9 127087-87-0 37205-87-1 68412-54-4	Restrictions according to (EU)1907/2006 (REACH) Annex XVII:46, 46 a. Permission for use according to (EU)1907/2006 Annex XIV. ECHA (EU) 1907/2006, candidate list. Seveso according to SFS 2015:236 and MSBFS 2015:8.	Degreasing and lubricants. Surfactant and as detergent. Waterproofing agents, paints and inks, biocides.
<b>Organic phosphates</b>			
-Tri (2-chloroethyl) phosphate (TCEP)	115-96-8	(EU) 1272/2008 Annex VI. ECHA (EU) 1907/2006, candidate list. Permission for use according to (EU)1907/2006 Annex XIV and KIFS 2017:7. Exceptions according to Annex XVII:28, 29, 30 (REACH) (EU) 1907/2006. Seveso according to SFS 2015:236 and MSBFS 2015:8.	Solvents, plasticizers and EP additives. Flame retardants in plastic and textiles.
Pentachlorophenol (PCP)	87-86-5 131-52-2	(EU) 1272/2008 Annex VI. Permission for use according to (EU)1907/2006 Annex XIV and KIFS 2017:7. Seveso according to SFS 2015:236 and MSBFS 2015:8.	For dyeing and printing of textiles. Preservatives for eg building blocks, disinfectants, wood preservatives, antifouling agents and pesticides.
<b>Highly fluorinated substance</b>			
-Perfluoro octane acid (PFOA)	All with carbon chains longer than 6 carbon (C6) eg 335-67-1	(EU) 1272/2008 Annex VI. Permission for use according to KIFS 2017:7. Restrictions according to (EU)1907/2006 (REACH) Annex XVII:68. Exceptions according to Annex XVII:28, 29, 30 (REACH) (EU) 1907/2006. ECHA (EU) 1907/2006, candidate list (PBT).	Sludge protection, wood protection.
-Perfluoro octane sulfonate (PFOS)	All with carbon chains longer than 6 carbon (C6) eg 68867-62-9	Permission for use according to KIFS 2017:7. Seveso according to SFS 2015:236 and MSBFS 2015:8.	Impregnation and fire protection.
<b>Polybrominated diphenyl ether (PBDE)</b>	All, eg 1163-19-5 32534-81-9 32536-52-0	(EU) 1272/2008 Annex VI. Restrictions according to (EU)1907/2006 (REACH) Annex XVII:67. Some exceptions for electrical and electronic equipment according to 8-10 § SFS 2012:861. ECHA (EU) 1907/2006, candidate list (PBT). Seveso according to SFS 2015:236 and MSBFS 2015:8.	Flame retardants.
<b>Polycyclic aromatic hydrocarbons (PAH)</b>			
- Anthracene	120-12-7	REACH regulation (EU) nr 1907/2006. ECHA (EU) 1907/2006, candidate list (PBT). Seveso according to SFS 2015:236 and MSBFS 2015:8.	Pyrotechnic products, creosote, paints and waterproof coatings. Roofing board, rubber tires and other rubber and impregnated wood.
- Benzo[a]pyrene	50-32-8	(EU) 1272/2008 Annex VI. Exceptions according to Annex XVII:28, 29, 30 (REACH) (EU) 1907/2006. ECHA (EU) 1907/2006, candidate list. Permission for use according to KIFS 2017:7. Seveso according to SFS 2015:236 and MSBFS 2015:8.	Paints and lacquers. creosote sleepers. Asphalt coating. Formed by wood burning.
<b>Tin organic compounds (Sn-org)</b>	All	REACH regulation (EU) nr 1907/2006. IED (Industrial Emissions Directive) (EU) 75/2010. The Water Framework Directive (EU) 60/2000 and Toy Safety Directive (EU) 48/2009.	Additives (stabilizers) in plastic. Very unusual but as catalysts in the binder in sealants, adhesives, sealants and lacquers. Boat bottom colours (regulated), wood impregnation and preservatives.

<b>Chemical pesticides</b>			
-Biocidal products	All	Biocidal regulation (EU) 528/2012. In Sweden according to Environmental Code,1998:808, regulation 2014:425 on pesticide, 2013:63 on pesticide fee and 2016:402 on nematodes, insects and spiders as pesticides and KIFS 2008:3 on pesticide and KIFS 2017:7 chemical products and biotechnological organisms.	Disinfectants, wood preservatives, mosquito repellents, rat poisons and boat bottom paints  Permitted to use according to NTR standard: -for small-scale fighting of pests such as rats and wasps -as wood preservatives -for mucosal prevention -as antifouling products -as a preservative in water-based products -as a disinfectant for human hygiene.
-Plant protection products	All	Plant protection regulation (EU) 1107/2009. In Sweden regulated according to 2014:425 on pesticide, 2013:63 on pesticide fee, 2016:402 on nematodes, insects and spiders as pesticides and 2006:1010 on plant protection products consisting nematodes, insects and spiders (rescinded but still applied for products approved before July 1, 2016). KIFS 2008:3 on pesticides.	Only use a plant protection product that has been approved.
<b>Chlorofluorocarbons (CFC)</b>	All	Freons prohibited since 2004	Refrigerants, fuel.
<b>Dinitrotoluene</b>	All, eg 25321-14-6 619-15-8 121-14-2 606-20-2	(EU) 1272/2008 Annex VI. Exceptions according to Annex XVII:28, 29, 30 (REACH) (EU) 1907/2006. Permission for use according to (EU)1907/2006 Annex XIV and KIFS 2017:7. ECHA (EU) 1907/2006, candidate list. Seveso according to SFS 2015:236 and MSBFS 2015:8.	Explosives and paint. Plastic industry and in "smokeless gunpowder".
<b>Glycol ethers</b>			
-2-Ethoxyethanol	110-80-5	(EU) 1272/2008 Annex VI. Exceptions according to (EU) 1907/2006 Annex XVII:40 and (EU) 1907/2006 Annex XVII:28, 29, 30. Permission for use according to (EU)1907/2006 Annex XIV and KIFS 2017:7. ECHA (EU) 1907/2006, candidate list. Seveso according to SFS 2015:236 and MSBFS 2015:8.	Solvent. Dispersion paints, cleaning emulsions, metal surface treatment agents, varnishes, dyes, lacquers, adhesives and resins.
-2-Methoxyethanol	109-86-4		
-2-Ethoxyethyl acetate	111-15-9		
-2-Methoxyethyl acetate	110-49-6		
<b>Halon compounds</b>			
-Halon 1211	353-59-3	REACH regulation (EU) 1907/2006. For sale and storage according to special regulations in SFS 1977:994. Regulation on substances that break down the ozone layer (EU) 1005/2009.	Solvent. refrigerant.
-Halon 1301	75-63-8		
-Halon 2402	124-73-2		
<b>Chlorofluorohydrocarbons (HCFC)</b>	All eg 25497-29-4 55949-46-7	Regulation on substances that break down the ozone layer (EU) 1005/2009, SFS 1988:716 and SNFS 92:16.	Refrigerants in refrigeration plants.

**Further information is available at**

Swedish Chemicals Agency: <https://www.kemi.se/>

Swedish Work Environment Authority: <https://www.av.se/>

Swedish Environmental Protection Agency, information about substances:

<https://utslappisiffror.naturvardsverket.se/Amnen/>