

2. List of chemicals using impermeable protective clothing against skin*6, but not risk assessment chemicals, including manufacture prohibited chemicals

Chemicals subject to the obligation of using impermeable protective clothing etc. but not subject to risk assessment, including chemicals prohibited for manufacture	CAS RN®	Remarks	Hazardous to/through skin*6; Obligation to use impermeable protective clothing, etc.			
			Skin corrosive/irritative chemicals*7, 8	Skin-absorbable hazardous chemicals*9, 10	OISHA*11	Cut off value (wt%)*13
1,1'-[(1R,2R,3S,4R,5R,6S)-4-({5-Deoxy-2-O-[2-deoxy-2-(methylamino)-alpha-L-glucopyranosyl]-3-C-formyl-alpha-L-lyxofuranosyl} oxy)-2,5,6-trihydroxycyclohexane-1,3-diyl]diguandine (Streptomycin)	57-92-1		●			1
Iodoacetic acid	64-69-7		●			1
Oxytetracycline	79-57-2		●			1
3,3'-Dimethylbiphenyl-4,4'-diyl diisocyanate	91-97-4		●			1
3-p-Cumenyl-2-methylpropionaldehyde	103-95-7		●			1
Geranyl acetate	105-87-3		●			1
Isopropyl chloroformate	108-23-6		●			1
N,N-Dimethyltetradecan-1-ylamine	112-75-4		●eye			1
Methyl 2-hydroxybenzoate (Methyl Salicylate)	119-36-8		●			1
Benzyl(hexadecyl)dimethylazanium chloride	122-18-9		●			1
3-Methyl-4-(2,6,6-trimethylcyclohex-2-en-1-yl)but-3-en-2-one	127-51-5		●			1
Benzyl(dodecyl)dimethylazanium chloride	139-07-1		●			1
Benzyl(dimethyltetradecylazanium chloride	139-08-2		●			1
Bis(2-ethylhexan-1-yl) maleate	142-16-5		●			1
Potassium benzoate	582-25-2			●		1
Hexanedioic acid, 1,6-dihydrazide	1071-93-8		●			1
3-(1,3-Benzodioxol-5-yl)-2-methylpropanal	1205-17-0		●			1
Lithium hydroxide monohydrate	1310-66-3		●			1
Zirconium oxide	1314-23-4		●			1
3-Bromo-2,2-bis(bromomethyl)propan-1-ol	1522-92-5		●eye			1
N-Butyl-N-ethyl-alpha,alpha,alpha-trifluoro-2,6-dinitro-p-toluidine (Bethrodine or Benfluralin)	1861-40-1		●			1
2-{[3-(Trimethoxysilyl)propoxy]methyl} oxirane	2530-83-8		●eye			1
2-Amino-3-chloro-1,4-naphthoquinone (Quinoclamine, ACN)	2797-51-5		●			1
4-Isopropyl-3-methylphenol	3228-02-2		●eye			1
2-Pyridinethiol, 1-oxide, sodium salt	3811-73-2		●	●		1
2-Butenal (Isomer mixture of (E)-2-butenal and (Z)-2-butenal)	4170-30-3		●	●		0.1
Ammonium thioglycolate	5421-46-5		●			1

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			Skin corrosive/irritative chemicals*7, 8	Skin-absorbable hazardous chemicals*9, 10	OISHA*11	Cut off value (wt%)*13
Hexyl 2-hydroxybenzoate (Hexyl salicylate)	6259-76-3		●			1
Sodium hypochlorite (effective chlorine concentration: 6-15 %)	7681-52-9		●			1
Potassium hypochlorite	7778-66-7		●			1
Creosote	8001-58-9		●			1
alpha-(Isocyanatobenzyl)-omega-(isocyanatophenyl)poly (Isocyanatophenylene)methylene	9016-87-9		●			1
Magnesium hypochlorite	10233-03-1		●			1
Perboric acid, sodium salt	11138-47-9		●eye			1
Perboric acid, sodium salt, monohydrate	12040-72-1		●eye			1
cis-Cyclohexane-1,2-dicarboxylic anhydride (cis-Hexahydrophthalic anhydride)	13149-00-3		●			1
Zinc bis(2-methylprop-2-enoate)	13189-00-9		●			1
Dihypochlorous acid barium salt	13477-10-6		●			1
Monosodium perborate trihydrate	13517-20-9		●eye			1
Lithium hypochlorite	13840-33-0		●			1
trans-Cyclohexane-1,2-dicarboxylic anhydride (trans-Hexahydrophthalic anhydride)	14166-21-3		●			1
Monosodium perborate	15120-21-5		●eye			1
1,3,5-Tris[3-(dimethylamino)propyl]hexahydro-1,3,5-triazine	15875-13-5		●eye			1
3-(4-tert-Butylphenyl)propanal	18127-01-0		●			1
N-(1,2-Dimethylpropyl)-N'-ethyl-6-(methylthio)-1,3,5-triazine-2,4-diamine (Dimethametryn)	22936-75-0		●			1
Dinitrotoluene (Mixed isomers)	25321-14-6			●		0.1
4-Isododecylphenol	27459-10-5		●			1
Polymer of aniline / formaldehyde / phosgene	32055-14-4		●			1
4-tert-Butylcyclohexan-1-yl acetate	32210-23-4		●			1
1-[(3R,3aR,7R,8aS)-3,6,8,8-Tetramethyl-2,3,4,7,8,8a-hexahydro-1H-3a,7-methanoazulen-5-yl]ethanone	32388-55-9		●			1
3-Bromo-2,2-bis(bromomethyl)propan-1-ol	36483-57-5		●eye			1
Perboric acid, sodium salt, tetrahydrate	37244-98-7		●eye			1
5-tert-Butyl-3-[2,4-dichloro-5-(prop-2-yn-1-yloxy)phenyl]-1,3,4-oxadiazol-2(3H)-one (Oxadiargyl)	39807-15-3		●			1
2,3-Dichloro-N-(4-fluorophenyl)maleimide (Fluoroimide)	41205-21-4		●			1
3-Cyclohexyl-6-(dimethylamino)-1-methyl-1,3,5-triazine-2,4(1H,3H)-dione (Hexazinone)	51235-04-2		●eye			1

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(R)-1-Chloro-2,3-epoxypropane	51594-55-9		●			1
S-Benzyl dipropylcarbamothioate (Prosulfocarb)	52888-80-9		●			1
1-(2,3,8,8-Tetramethyl-1,2,3,4,5,6,7,8-octahydronaphthalen-2-yl)ethan-1-one (Iso E Super)	54464-57-2		●			1
O-(2,6-dichloro-p-tolyl) O,O-dimethyl phosphorothioate (Tolclofos-methyl)	57018-04-9		●			1
Phenol, tetrapropylene	57427-55-1		●			1
Ethoxylated tallow alkylamines	61791-26-2		●			1
4,5-Dichloro-2-octylisothiazol-3(2H)-one	64359-81-5		●			1
Poly(oxyethylene) alkyl ether (limited to those the alkyl group is C=12-15 and mixtures thereof)	68131-39-5		●			1
Alkyl(C=12-16)(benzyl)(dimethyl)ammonium chloride	68424-85-1		●			1
(RS)-2-(4-Isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)nicotinic acid (Imazapyr)	81334-34-1		●eye			1
2-Chloro-N-(2-ethyl-6-methylphenyl)-N-[(S)-1-methoxypropan-2-yl]acetamide (S-Metolachlor)	87392-12-9		●			1
(RS)-2-Chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methylethyl)acetamide (Dimethenamid)	87674-68-8		●			1
Dodecyl(branched chain)phenol	121158-58-5		●			1
4-Cyclopropyl-6-methyl-N-phenylpyrimidin-2-amine (Cyprodinil)	121552-61-2		●			1
(RS)-2-[2-(3-Chlorophenyl)-2,3-epoxypropyl]-2-ethylindane-1,3-dione (Indanofan)	133220-30-1		●			1
4'-Fluoro-N-isopropyl-2-(5-trifluoromethyl-1,3,4-thiadiazol-2-yloxy)acetanilide (Flufenacet)	142459-58-3		●			1
Butanoic acid, 2,2-dimethyl-, 3-(2,4-dichlorophenyl)-2-oxo-1-oxaspiro(4.5)dec-3-en-4-yl ester (Spirodiclofen)	148477-71-8		●			1
2-Chloro-N-(2-ethyl-6-methylphenyl)-N-[(R)-1-methoxypropan-2-yl]acetamide (R-Metolachlor)	178961-20-1		●			1
3,4-Dichloro-N-(2-cyanophenyl)isothiazole-5-carboxamide (Isotianil)	224049-04-1		●			1
2-Methoxyethyl 2-[4-(tert-butyl)phenyl]-2-cyano-3-oxo-3-[2-(trifluoromethyl)phenyl]propanoate (Cyflumetofen)	400882-07-7		●			1
(E)-2-[4-(tert-Butyl)phenyl]-2-cyano-1-(1,3,4-trimethyl-1H-pyrazol-5-yl)vinyl 2,2-dimethylpropanoate (Cyenopyrafen)	560121-52-0		●			1
(5-Chloro-2-methoxy-4-methylpyridin-3-yl)(2,3,4-trimethoxy-6-methylphenyl)methanone (Pyrioifenone)	688046-61-9		●			1
Powder cake (1) (nitroglycerin/nitrocellulose/water: 60/15/25)	*2 (UN NO.0159)		●			1
Powder cake (2) (nitroglycerin/nitrocellulose/isopropylalcohol: 60/23/17)	*2 (UN NO.0433)		●			1
Yellow phosphorus match	*2	Manufacture prohibited chemicals			●	—
Benzidine and its salts	*2	Manufacture prohibited chemicals			●	1

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4-Aminodiphenyl and its salts	*2	Manufacture prohibited chemicals			●	1
4-Nitrodiphenyl and its salts	*2	Manufacture prohibited chemicals			●	1
Bis(chloromethyl)ether	*2	Manufacture prohibited chemicals			●	1
Beta naphthylamine and its salts	*2	Manufacture prohibited chemicals			●	1
Rubber paste containing benzene, in which the volume of benzene contained exceeds 5% of the solvent (including diluent) of the rubber paste.	*2	Manufacture prohibited chemicals			●	—
Welding fume	*2				●	1

Note:

*2 Indicates that the CAS RN® cannot be determined.

*6 Chemicals that cause skin damage, etc. are defined as "Chemicals containing substances (limited to those that are clearly likely to cause damage to the skin or eyes, or that may cause health disorders by being absorbed through or penetrating the skin)" in Article 594-2 of the Ordinance on Industrial Safety and Health.

*7 Skin corrosive/irritative chemicals are those that cause damage to the skin, and are classified as GHS Category 1 in "skin corrosion/irritation", "serious eye damage/eye irritation", and "respiratory sensitization or skin sensitization" among the toxicity information listed in the GHS classification results published by the government and the SDS etc. provided by the supplier. However, this excludes cases where the use of impermeable protective clothing is required to prevent skin or eye damage under special regulations such as the Ordinance on Prevention of Hazards Due to Specified Chemical Substances. In addition, chemicals with "eye" in column E are classified as Category 1 only for "Serious eye damage/eye irritation" and are not classified as harmful chemicals absorbed through the skin. Therefore, they are chemicals for which only eye protection is required.

*8 The skin corrosive/irritative substances listed are based on the results of the national GHS classification as of March 31, 2023. GHS classification by the government will be reviewed, so check the latest information. Also, check the toxicity information listed on the SDS etc. provided by suppliers.

*9 Skin-absorbable harmful chemicals refer to those that are known to cause health disorders by being absorbed through the skin or penetrating the skin. However, this excludes cases where special regulations such as Ordinance on Prevention of Hazards Due to Specified Chemical Substances (OPHSCS) require the use of impermeable protective clothing to prevent skin or eye damage.

*10 The skin-absorbable hazardous chemicals listed are those that were identified by the Ministry of Health, Labor and Welfare's administrative review committee. Even if a chemical is not listed here, if it becomes clear that it falls under the category of skin-absorbable hazardous chemical due to new findings, etc., it should be treated as a chemical to use impermeable protective clothing, etc. based on Article 594-2 of the Ordinance on Industrial Safety and Health.

*11 Order for Industrial Safety and Health Act (OISHA), Article 47 (6)

*13 Chemicals whose content of skin corrosive/irritative and/or skin-absorbable hazardous substance is less than the cut-off value do not fall under the category of obligation to use impermeable protective clothing, etc.. Furthermore, regarding chemicals that are subject to special regulations such as Ordinance on Prevention of Hazards Due to Specified Chemical Substances, such special regulations do not apply to chemicals with a content below the cut-off value.