

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

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1.2 Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Relevant uses

Hardener

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company Voelkel Industrie Produkte GmbH
Frauenstrasse 31
82216 Maisach / GERMANY
Phone +49 (0) 8141 35 549 0
Fax +49 (0) 8141 35 549 99
Homepage www.vip-gmbh.com
E-mail info@vip-gmbh.com

Address enquiries to

Technical information info@vip-gmbh.com
Safety Data Sheet sdb@chemiebuero.de

1.4 Emergency telephone number

Advisory body +49 (0)89-19240 (24h) (english)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

Carc. 2: H351 Suspected of causing cancer.
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure through inhalation.
Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Acute Tox. 4: H332 Harmful if inhaled.
Eye Irrit. 2: H319 Causes serious eye irritation.
Skin Sens. 1: H317 May cause an allergic skin reaction.
Skin Irrit. 2: H315 Causes skin irritation.
STOT SE 3: H335 May cause respiratory irritation.
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects.

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

Xn, Harmful - R 20: Harmful by inhalation.
Xi, Irritant - R 36/37/38: Irritating to eyes, respiratory system and skin.
Xn, carcinogen category 3 - R 40: Limited evidence of a carcinogenic effect.
Sensitizing. - R 42/43: May cause sensitisation by inhalation and skin contact.
Xn, Harmful - R 48/20: Harmful - danger of serious damage to health by prolonged exposure through inhalation.
N, Dangerous for the environment - R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

The product is classified and required to be labelled in accordance with EC-Directives

Labelling according to Regulation (EC) 1272/2008

Hazard pictograms



Signal word

DANGER

Contains:

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate

Polyoxy(methyl-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1-methylenebisocyanatobenzene

Hazard statements

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure through inhalation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H332 Harmful if inhaled.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H315 Causes skin irritation.

H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe mist / vapours / spray.

P280 Wear protective gloves / protective clothing / eye protection / face protection.

P284 In case of inadequate ventilation wear respiratory protection.

P302+P352 IF ON SKIN: Wash with plenty of water / soap.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P311 Call a POISON CENTER / doctor.

Special labelling

EUH204 Contains isocyanates. May produce an allergic reaction.

2.3 Other hazards

Other hazards

Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

Range [%]	Substance
20 - 50	Polymer GHS/CLP: Acute Tox. 4: H332 - Skin Irrit. 2: H315 - Eye Irrit. 2: H319 - Resp. Sens. 1: H334 - Skin Sens. 1: H317 - Carc. 2: H351 - STOT SE 3: H335 - STOT RE 2: H373 EEC: Xn, R 40-20-42/43-48/20-36/37/38
20 - 50	Polyoxy(methyl-1,2-ethanediyl), .alpha.-hydro.-omega.-hydroxy-, polymer with 1,1-methylenebisocyanatobenzene CAS: 39420-98-9, EINECS/ELINCS: Polymer GHS/CLP: Acute Tox. 4: H332 - Skin Irrit. 2: H315 - Eye Irrit. 2: H319 - Resp. Sens. 1: H334 - Skin Sens. 1: H317 - Carc. 2: H351 - STOT SE 3: H335 - STOT RE 2: H373 EEC: Xn, R 20-36/37/38-40-42/43-48/20
20 - 50	Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate EINECS/ELINCS: 905-806-4, ECB-Nr.: 01-2119457015-45-XXXX GHS/CLP: Carc. 2: H351 - Acute Tox. 4: H332 - STOT RE 2: H373 - Eye Irrit. 2: H319 - STOT SE 3: H335 - Skin Irrit. 2: H315 - Resp. Sens. 1: H334 - Skin Sens. 1: H317 EEC: Xn, R 20-36/37/38-40-42/43-48/20
20 - 30	Oxydipropyl dibenzoate CAS: 27138-31-4, EINECS/ELINCS: 248-258-5, ECB-Nr.: 01-2119529241-49-0000 GHS/CLP: Aquatic Chronic 3: H412 EEC: N, R 51/53

Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.
 For full text of H-statements and R-phrases: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Take off contaminated clothing and wash before reuse.

Inhalation

Ensure supply of fresh air.
 Remove the victim into fresh air and keep him calm.
 Consult a doctor immediately.

Skin contact

In the event of contact with the skin wash immediately with polyethylene glycol, then with plenty of water.
 Consult a doctor if skin irritation persists.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If eye irritation persists: Get medical advice/attention.

Ingestion

Do not induce vomiting.
 Rinse mouth.
 Consult a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects
 Allergic reactions
 Redness
 Gastro-intestinal complains.
 Cough

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
 Keep under medical supervision for at least 48 hours.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Foam.
Carbon dioxide.
Dry powder.
Much water.

Extinguishing media that must not be used Full water jet

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Carbon monoxide (CO)
Carbon dioxide (CO₂)
Nitrogen oxides (NO_x).
Isocyanate
Hydrogen cyanide (HCN).

5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.
Use self-contained breathing apparatus.
Cool containers at risk with water spray jet.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Use personal protective equipment.
Use breathing apparatus if exposed to vapours/aerosol.
Remove persons to safety.
High risk of slipping due to leakage/spillage of product.

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the drains/surface waters/groundwater.
In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance with the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Provide suitable vacuuming at the processing area.
Avoid spilling or spraying in enclosed areas.
The product is combustible.
Do not eat, drink, smoke or take drugs at work.
Take off contaminated clothing and wash before reuse.
It is recommended to preview eye-wash bottle and showers.
Wash hands before breaks and after work.
Use barrier skin cream.



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7.2 Conditions for safe storage, including any incompatibilities

Prevent penetration into the ground.
Keep only in original container.
Do not store with amines
Keep away from water.
Do not store together with oxidizing agents.
Keep container tightly closed.
Keep container in a well-ventilated place.
Keep in a cool place, heat causes increase in pressure and risk of bursting.
Protect from heat/overheating.
Store in a dry place.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Range [%]	Substance
20 - 50	Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate
	EINECS/ELINCS: 905-806-4, ECB-Nr.: 01-2119457015-45-XXXX
	Long-term exposure: 0,02 mg/m ³ , as NCO, Sen
	Short-term exposure (15-minute): 0,07 mg/m ³
20 - 50	Polyoxy(methyl-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with 1,1-methylenebis(isocyanatobenzene)
	CAS: 39420-98-9, EINECS/ELINCS: Polymer
	Long-term exposure: 0,02 mg/m ³ , as NCO, Sen
	Short-term exposure (15-minute): 0,07 mg/m ³

DNEL

Range [%]	Substance
20 - 30	Oxydipropyl dibenzoate, CAS: 27138-31-4
	Industrial, dermal, Acute - systemic effects: 160 mg/kg bw.
	Industrial, inhalative, Acute - systemic effects: 38,08 mg/m ³ .
	Industrial, inhalative, Long-term - systemic effects: 5,8 mg/m ³ .
	Industrial, dermal, Long-term - systemic effects: 1,7 mg/kg bw.
	general population, oral, Acute - systemic effects: 80 mg/kg bw.
	general population, dermal, Long-term - systemic effects: 0,8 mg/kg bw.
	general population, inhalative, Long-term - systemic effects: 1,4 mg/m ³ .
	general population, oral, Long-term - systemic effects: 0,8 mg/kg bw.
	general population, dermal, Acute - systemic effects: 8 mg/kg bw.
	general population, inhalative, Acute - systemic effects: 8,7 mg/m ³ .
20 - 50	Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate
	Industrial, dermal, Acute - local effects: 28,7 mg/cm ² .
	Industrial, inhalative, Acute - systemic effects: 0,1 mg/m ³ .
	Industrial, inhalative, Acute - local effects: 0,1 mg/m ³ .
	Industrial, inhalative, Long-term - systemic effects: 0,05 mg/m ³ .
	Industrial, inhalative, Long-term - local effects: 0,05 mg/m ³ .
	Industrial, dermal, Acute - systemic effects: 50 mg/kg bw/d.
	general population, oral, Acute - systemic effects: 20 mg/kg bw/d.
	general population, dermal, Acute - systemic effects: 25 mg/kg BW/d.
	general population, dermal, Acute - local effects: 17,2 mg/cm ² .
	general population, inhalative, Acute - systemic effects: 0,05 mg/m ³ .
	general population, inhalative, Acute - local effects: 0,05 mg/m ³ .
	general population, inhalative, Long-term - systemic effects: 0,025 mg/m ³ .
	general population, inhalative, Long-term - local effects: 0,025 mg/m ³ .

PNEC

Range [%]	Substance
20 - 30	Oxydipropyl dibenzoate, CAS: 27138-31-4
	sewage treatment plants (STP), 10 mg/l.
	soil, 1 mg/kg.
	sediment (seawater), 0,0474 mg/kg.
	sediment (freshwater), 0,474 mg/kg.
	seawater, 0,00029 mg/l.
	freshwater, 0,0029 mg/l.

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20 - 50	Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate
	sewage treatment plants (STP), 1 mg/l.
	soil, 1 mg/kg.
	seawater, 0,1 mg/l.
	freshwater, 1 mg/l.

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Using suitable discharges or exhaust ventilation.
Eye protection	safety glasses
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. Butyl rubber, >480 min (EN 374). Nitrile rubber, >480 min (EN 374). Viton, >480 min (EN 374). Polychloroprene, >480 min (EN 374).
Skin protection	Impermeable protective and long-sleeved work clothing.
Other	Avoid contact with eyes and skin. Do not breathe vapour/spray. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of these equipments to chemicals should be ascertained with the respective supplier.
Respiratory protection	Breathing apparatus in the event of high concentrations. Short term: filter apparatus, filter A.
Thermal hazards	No information available.
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Color	yellowish
Odor	musty faintly
Odour threshold	not determined
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not determined
Flash point [°C]	not determined
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	not determined
Upper explosion limit	not determined
Oxidizing properties	no
Vapour pressure/gas pressure [kPa]	not determined
Density [g/ml]	1,10 - 1,14 (20 °C / 68,0 °F)
Bulk density [kg/m³]	not applicable
Solubility in water	immiscible
Partition coefficient [n-octanol/water]	not determined
Viscosity	600-1300 mPas (25 °C)
Relative vapour density determined in air	not determined
Evaporation speed	not determined
Melting point [°C]	not determined
Autoignition temperature [°C]	not determined
Decomposition temperature [°C]	not determined

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.
In closed containers rise of pressure.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).
Polymerization may occur at elevated temperature.

10.3 Possibility of hazardous reactions

Reactions with water, with formation of carbon dioxide.
Reactions with strong oxidizing agents.
Exothermic reaction at:
Reactions with alcohols.
Reactions with amines.

10.4 Conditions to avoid

Strong heating.
Water.

10.5 Incompatible materials

See SECTION 10.3.

10.6 Hazardous decomposition products

In the event of fire: See SECTION 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product
ATE-mix, inhalativ (mist), > 1,0 - 5 mg/l/4h.

Range [%]	Substance
20 - 50	Polyoxy(methyl-1,2-ethanediyl), .alpha.-hydro.-omega.-hydroxy-, polymer with 1,1-methylenebisisocyanatobenzene, CAS: 39420-98-9
	LD50, intraperitoneal, Rabbit: 100 mg/kg.
	LD50, oral, Rat: > 10000 mg/kg.
	LD50, dermal, Rabbit: > 9400 mg/kg.
	LC50, inhalativ (mist), Rat: 0,49 mg/l/4h.
	NOAEL, Rat: 12 mg/m ³ (OECD 414).
20 - 30	Oxydipropyl dibenzoate, CAS: 27138-31-4
	LD50, dermal, Rat: > 2000 mg/kg.
	LD50, oral, Rat: 3914 mg/kg.
	LC50, inhalative, Rat: > 200 mg/l/4h.
	NOAEL, Rat: 1000 mg/kg/90d.
20 - 50	Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate
	LD50, oral, Rat: > 10000 mg/kg.
	LD50, dermal, Rabbit: > 9400 mg/kg.
	LC50, inhalativ (mist), Rat: 0,49 mg/l/4h.
	NOAEL, Rat: 12 mg/m ³ (OECD 414).

Serious eye damage/irritation not determined

Skin corrosion/irritation not determined

Respiratory or skin sensitisation not determined

Specific target organ toxicity — single exposure not determined

Specific target organ toxicity — repeated exposure not determined

Mutagenicity not determined

Reproduction toxicity not determined

Carcinogenicity Limited evidence of a carcinogenic effect.

General remarks The following applies to cyanogen compounds/ nitriles in general: utmost caution! Release of hydrocyanic acid is possible - blockade of cellular respiration. Cardiovascular disorders, dyspnoea, unconsciousness.

Toxicological data of complete product are not available.

The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 12: Ecological information

12.1 Toxicity

Range [%]	Substance
20 - 30	Oxydipropyl dibenzoate, CAS: 27138-31-4
	LC50, (96h), Pimephales promelas: 3,7 mg/l.
	NOELR, (72h), Algae: 1 mg/l.
	NOELR, (72h), Algae: 1 mg/l.
	LL50, (48h), Daphnia magna: 19,3 mg/l.
	LL50, (72h), Algae: 4,9 mg/l.
20 - 50	Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate
	LC50, (96h), fish: > 1000 mg/l (OECD 203).
	EC50, (24h), Daphnia magna: > 1000 mg/l (OECD 202).
	EC50, (3h), Bacteria: > 100 mg/l (OECD 209).
	NOEC, (21d), Daphnia magna: > 10 mg/l (OECD 211).

12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not determined
Biological degradability	Biodegradable in part only 87%, 28d (CAS 27138-31-4)

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

not applicable

12.6 Other adverse effects

The product is insoluble in water.

Ecological data of complete product are not available.

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Dispose of as hazardous waste.
Coordinate disposal with the authorities if necessary.

Waste no. (recommended) 080501*

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended) 150110*

SECTION 14: Transport information

14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

14.2 UN proper shipping name

Transport by land according to ADR/RID NO DANGEROUS GOODS

Inland navigation (ADN) NO DANGEROUS GOODS

Marine transport in accordance with IMDG NOT CLASSIFIED AS "DANGEROUS GOODS"

Air transport in accordance with IATA NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

See SECTION 14.2 in accordance with UN shipping name

14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EEC-REGULATIONS	1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2015); IMDG-Code (2015, 37. Amdt.); IATA-DGR (2015).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	Observe employment restrictions for young people. Observe employment restrictions for mothers-to-be and nursing mothers.
- VOC (1999/13/CE)	not applicable

15.2 Chemical safety assessment

For this product a chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1 R-phrases (SECTION 3)

R 20: Harmful by inhalation.
R 36/37/38: Irritating to eyes, respiratory system and skin.
R 40: Limited evidence of a carcinogenic effect.
R 42/43: May cause sensitisation by inhalation and skin contact.
R 48/20: Harmful - danger of serious damage to health by prolonged exposure through inhalation.
R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

16.2 Hazard statements (SECTION 3)

H412 Harmful to aquatic life with long lasting effects.
H373 May cause damage to organs through prolonged or repeated exposure through inhalation.
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H315 Causes skin irritation.
H335 May cause respiratory irritation.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H332 Harmful if inhaled.
H351 Suspected of causing cancer.

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16.3 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
ELINCS = European List of Notified Chemical Substances
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform Chemical Information Database
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
TLV@/TWA = Threshold limit value – time-weighted average
TLV@STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.4 Other information

Classification procedure

Carc. 2: H351 Suspected of causing cancer. (Calculation method)
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure through inhalation. (Calculation method)
Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Calculation method)
Acute Tox. 4: H332 Harmful if inhaled. (Calculation method)
Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method)
Skin Sens. 1: H317 May cause an allergic skin reaction. (Calculation method)
Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)
STOT SE 3: H335 May cause respiratory irritation. (Calculation method)
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects. (Calculation method)

Modified position

none



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