

Safety data sheet
According to 1907/2006/EC, Article 31 REACH

Printing date 05.07.2018

Version: 5

Revision: 17.04.2018

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

1.1 Product identifier

Trade name: **PENTSOL (all colors)**

Article number: 03640001

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

Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Application of the substance / the mixture Concrete paint/ concrete coating

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

ZEP UK Ltd
Tanhouse Lane
Widnes Cheshire, WA8 0RD
United Kingdom
Tel: +44 (0)151 422 1000
Fax: +44 (0)151 422 1011
@: info@zep.co.uk
web: www.zep.co.uk

ZEP Industries BV
Vierlinghweg 30
4612 PN Bergen op Zoom
The Netherlands
Tel: (NL) + 31 164 250 100 (B) + 32 2 347 0117
Fax: (NL) + 31 164 266 710 (B) + 32 2 347 1395
@: sales@zpebenelux.com

ZEP ITALIA SRL
Via Netunese Km. 25.000
04011 Aprilia (LT) - Italy
Tel: +39.06.926691
Fax: +39.06.92747061
@: tecnico@zepeurope.com
Sito: www.zep.it

Further information obtainable from:

Customer Service

NL: Tel: + 31 164 250 100 Fax: + 31 164 266 710

B: Tel: +32 2 347 0117 Fax: +32 2 347 1395

IT: Tel: +39 069 266 91 Fax: +39 06.927 470 61

UK: Tel: +44 151 422 1000 Fax: +44 151 422 1011

1.4 Emergency telephone number:

Customer Service

NL: Tel: + 31 164 250 100 Fax: + 31 164 266 710

B: Tel: +32 2 347 0117 Fax: +32 2 347 1395

IT: Tel: +39 069 266 91 Fax: +39 06.927 470 61

UK: Tel: +44 151 422 1000 Fax: +44 151 422 1011

EU: Tel. 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 3 H226 Flammable liquid and vapour.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Carc. 2 H351 Suspected of causing cancer.

STOT SE 3 H335 May cause respiratory irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

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- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02 GHS07 GHS08

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
diphenylmethane-4,4'-di-isocyanate
4-isocyanatosulphonyltoluene
- **Hazard statements**
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe vapours.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Additional information:**
Contains isocyanates. May produce an allergic reaction.
- **2.3 Other hazards** *The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds.*
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** *Mixture of substances listed below with nonhazardous additions.*

- **Dangerous components:**

CAS: 64742-95-6 EINECS: 265-199-0 Reg.nr.: 01-2119455851-35-xxxx	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25% benzene <0.1%) ⚠ Flam. Liq. 3, H226 ⚠ Asp. Tox. 1, H304 ⚠ Aquatic Chronic 2, H411 ⚠ Acute Tox. 4, H332; STOT SE 3, H336	10-25%
CAS: 101-68-8 EINECS: 202-966-0	diphenylmethane-4,4'-di-isocyanate ⚠ Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373 ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	5-10%
CAS: 141-78-6 EINECS: 205-500-4 Reg.nr.: 01-2119475103-46-xxxx	ethyl acetate ⚠ Flam. Liq. 2, H225 ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	1-2.5%
CAS: 4083-64-1 EINECS: 223-810-8 Reg.nr.: 01-2119980050-47-xxxx	4-isocyanatosulphonyltoluene ⚠ Resp. Sens. 1, H334 ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	1-2.5%

- **Ingredients according to Detergents Regulation 648/2004/EC** *For the wording of the listed hazard phrases refer to section 16.*

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SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
If skin irritation continues, consult a doctor.
Immediately wash with water and soap and rinse thoroughly.
Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.
- **Additional information** Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Prevent seepage into sewage system, workpits and cellars.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, universal binders).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Use only in well ventilated areas.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Provide solvent resistant, sealed floor.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

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· 7.3 **Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.· **8.1 Control parameters**· **Ingredients with limit values that require monitoring at the workplace:****101-68-8 diphenylmethane-4,4'-di-isocyanate (5-10%)**

WEL (Great Britain)	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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141-78-6 ethyl acetate (1-2.5%)

WEL (Great Britain)	Short-term value: 400 ppm Long-term value: 200 ppm
IOELV (European Union)	Short-term value: 1468 mg/m ³ , 400 ppm Long-term value: 734 mg/m ³ , 200 ppm

4083-64-1 4-isocyanatosulphonyltoluene (1-2.5%)

WEL (Great Britain)	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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· **Additional information:** The lists valid during the making were used as basis.· **8.2 Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

PVA gloves

· **Not suitable are gloves made of the following materials:** Strong material gloves· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Solvent resistant protective clothing

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SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - **Form:** Fluid
 - **Colour:** According to product specification
 - **Odour:** Characteristic
 - **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
 - **Melting point/freezing point:** Undetermined.
 - **Initial boiling point and boiling range:** 110 °C
- **Flash point:** 40 °C
- **Flammability (solid, gas):** Not applicable.
- **Ignition temperature:** 450 °C
- **Decomposition temperature:** Not determined.
- **Auto-ignition temperature:** Product is not selfigniting.
- **Explosive properties:** Product does not present an explosion hazard.
- **Explosion limits:**
 - **Lower:** 1 Vol %
 - **Upper:** 6 Vol %
- **Vapour pressure at 20 °C:** 5 hPa
- **Density at 20 °C:** 1.5 g/cm³
- **Relative density:** Not determined.
- **Vapour density:** Not determined.
- **Evaporation rate:** Not determined.
- **Solubility in / Miscibility with water:** Insoluble.
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
 - **Dynamic:** Not determined.
 - **Kinematic at 20 °C:** 400 s (DIN 53211/4)
- **Solvent content:**
 - **Organic solvents:** 17.0 %
 - **EU-VOC:** 255.0 g/l
 - **EU-VOC:** 17.00 %
 - **Swiss VOC:** 17.00 %
- **9.2 Other information:** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity:** No further relevant information available.
- **10.2 Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions:** No dangerous reactions known.
- **10.4 Conditions to avoid:** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

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· LD/LC50 values relevant for classification:**64742-95-6 Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25% benzene <0.1%)**

Oral	LD50	>4,000 mg/kg (Rat)
Dermal	LD50	>3,400 mg/kg (rab)
Inhalative	LC50 / 4 h	>10.2 mg/ltr (Rat)
	LC50 / 96 h	>92 mg/ltr (fish) Oncorhynchus mykiss
	EC50 / 24 h	150 mg/ltr (Daphnia magna (water flea))
	EC 50 / 48 h	>29 mg/ltr (-) Pseudokirchneriella subcapitata

141-78-6 ethyl acetate

Oral	LD50	4,935 mg/kg (Rabbit)
Dermal	LD50	>18,000 mg/kg (Rabbit)
Inhalative	LC50 / 4 h	1,600 mg/ltr (Rat)
	EC50 / 24 h	2,500 mg/ltr (Daphnia magna (water flea))

· Primary irritant effect:**· Skin corrosion/irritation**

Causes skin irritation.

· Serious eye damage/irritation

Causes serious eye irritation.

· Respiratory or skin sensitisation

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

May cause an allergic skin reaction.

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**· Germ cell mutagenicity** Based on available data, the classification criteria are not met.**· Carcinogenicity**

Suspected of causing cancer.

· Reproductive toxicity Based on available data, the classification criteria are not met.**· STOT-single exposure**

May cause respiratory irritation.

· STOT-repeated exposure Based on available data, the classification criteria are not met.**· Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity**· Aquatic toxicity:** No further relevant information available.**· 12.2 Persistence and degradability** No further relevant information available.**· 12.3 Bioaccumulative potential** No further relevant information available.**· 12.4 Mobility in soil** No further relevant information available.**· Ecotoxicological effects:****· Remark:** Harmful to fish**· Additional ecological information:****· General notes:**

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Harmful to aquatic organisms

· 12.5 Results of PBT and vPvB assessment**· PBT:** Not applicable.**· vPvB:** Not applicable.**· 12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods**· Recommendation** Disposal must be made according to official regulations**· European waste catalogue**

15 00 00	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01 00	packaging (including separately collected municipal packaging waste)

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15 01 04	metallic packaging
08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 01 00	wastes from MFSU and removal of paint and varnish
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

- **Uncleaned packaging:**
- **Recommendation:** Disposal in accordance with administrative provisions

SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN1263
· 14.2 UN proper shipping name · ADR · IMDG, IATA	1263 PAINT PAINT
· 14.3 Transport hazard class(es) · ADR	
	
· Class · Label	3 (F1) Flammable liquids. 3
· IMDG, IATA	
	
· Class · Label	3 Flammable liquids. 3
· 14.4 Packing group · ADR · IMDG, IATA	III II
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category	Warning: Flammable liquids. 30 3-07 B
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category · Tunnel restriction code	3 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

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· UN "Model Regulation":

UN 1263 PAINT, 3, III

SECTION 15: Regulatory information

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

Reg. (EC) n. 1272/2008 - CLP;
 Reg. (EC) n. 1907/2006 – Reach;
 Reg. (EC) n. 2015/830 annex II of REACH;
 Reg. (EC) n. 648/04 (Detergents);
 Reg. (EC) n. 528/12 (Biocides BPR);
 Reg. (EC) n. 1223/2009 (Cosmetics);
 Dir. 06/08 ADR – RID - IMDG - IATA;
 Dir. 47/08 (Aerosols); Dir. 12/18 (Seveso III);
 Dir. 2008/98/CE and Reg. (EC) n.1357/2014 (Waste management)

· Directive 2012/18/EU

- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 56a

· National regulations:

· Technical instructions (air):

Class	Share in %
I	5-10
NK	10-25

· **Waterhazard class:** Water danger class 3 (Self-assessment): extremely hazardous for water.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H225 Highly flammable liquid and vapour.
 H226 Flammable liquid and vapour.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H351 Suspected of causing cancer.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H411 Toxic to aquatic life with long lasting effects.

· Department issuing SDS:

Customer Service
 NL: Tel: + 31 164 250 100 Fax: + 31 164 266 710
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 IT: Tel: +39 069 266 91 Fax: +39 06.927 470 61
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· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOCV: Lenkungsabgabe auf flüchtigen organischen Verbindungen, Schweiz (Swiss Ordinance on volatile organic compounds)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· * Data compared to the previous version altered.

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Annex: Exposure scenario

* **Short title of the exposure scenario**

For the finished product.

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Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Description of the activities / processes covered in the Exposure Scenario See section 1 of the annex to the Safety Data Sheet.

Conditions of use

Duration and frequency 5 workdays/week.

Physical parameters

Physical state Fluid

Concentration of the substance in the mixture The substance is main component.

Used amount per time or activity According to directions for use.

Other operational conditions

Other operational conditions affecting environmental exposure Use only on hard ground.

Other operational conditions affecting worker exposure

Avoid contact with the skin.

Avoid long-term or repeated skin contact.

Avoid contact with eyes.

Take precautionary measures against static discharge.

Keep away from sources of ignition - No smoking.

Other operational conditions affecting consumer exposure Keep out of the reach of children.

Other operational conditions affecting consumer exposure during the use of the product Not applicable.

Risk management measures

Worker protection

Organisational protective measures No special measures required.

Technical protective measures

Use product only in enclosed systems.

Ensure that suitable extractors are available on processing machines

Provide explosion-proof electrical equipment.

Personal protective measures

Do not inhale gases / fumes / aerosols.

Avoid contact with the skin.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Avoid contact with the eyes.

Tightly sealed goggles

Measures for consumer protection

Ensure adequate labelling.

Keep locked up and out of the reach of children.

Environmental protection measures

Water Do not allow to reach sewage system.

Soil Prevent contamination of soil.

Disposal measures

Disposal in accordance with administrative provisions

Ensure that waste is collected and contained.

Disposal procedures Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Waste type Partially emptied and uncleaned packaging

Exposure estimation

Consumer Not relevant for this Exposure Scenario.

Guidance for downstream users No further relevant information available.