



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 18.09.2015

Version number 2

Revision: 31.07.2015

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

- **1.1 Product identifier**
- **Trade name:** *swift@hardener 9502*
- **Article number:** 149502.0386.01F
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Product category** PC1 Adhesives, sealants
- **Application of the substance / the mixture** Hardening agent/ Curing agent
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
H.B. Fuller, Isar-Rakoll, S.A.
Estrada Nacional 13
PT-4486-851 Mindelo - Vila do Conde
+351 229 288 200
EU-MSDS@hbfuller.com
- **Informing department:** Regulatory Department
- **1.4 Emergency telephone number:**
NCEC emergency service
+44 (0) 1235 239 670 (24 hours)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**

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-H336	May cause respiratory irritation. May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**

GHS07 GHS08
- **Signal word** Danger
- **Hazard-determining components of labelling:**
dichloromethane
diphenylmethanediisocyanate, isomeres and homologues
dibutyltin dilaurate
- **Hazard statements**

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.

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H351 Suspected of causing cancer.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

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

- **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P281 Use personal protective equipment as required.

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

P405 Store locked up.

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**

- **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 consisting of the following components.

- **Dangerous components:**

CAS: 75-09-2 EINECS: 200-838-9 Reg.nr.: 01-2119480404-41-xxxx	dichloromethane Carc. 2, H351; STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335-H336	50-100%
CAS: 9016-87-9 EC number: 618-489-9	diphenylmethanediisocyanate, isomeres and homologues 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	25-50%
CAS: 77-58-7 EINECS: 201-039-8	dibutyltin dilaurate Acute Tox. 3, H301; Muta. 2, H341; Repr. 1B, H360; STOT RE 1, H372; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	< 0.2%

- **Additional information** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information**

Instantly remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Take affected persons into the open air.

- **After inhalation** Supply fresh air and call for doctor for safety reasons.

- **After skin contact**

Instantly wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.

- **After swallowing** Do not induce vomiting; instantly call for medical help.

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- **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, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**
Can be released in case of fire
Carbon monoxide and carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained breathing apparatus.
Do not inhale explosion gases or combustion gases.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
- **6.2 Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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 information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.
Take note of emission threshold.
Use solvent-proof equipment.
Keep out of the reach of children.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** Prevent any penetration into the ground.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store in cool, dry conditions in original sealed container

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- **Recommended storage temperature:** +10 °C - +25 °C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **8.1 Control parameters**

· **Components with limit values that require monitoring at the workplace:**

75-09-2 dichloromethane

WEL	Short-term value: 1060 mg/m ³ , 300 ppm Long-term value: 350 mg/m ³ , 100 ppm BMGV, Sk
-----	--

9016-87-9 diphenylmethandiisocyanate, isomeres and homologues

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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- **DNELs**
DIPHENYLMETHANDIISOCYANATE (CAS 101-68-8):
DNEL Dermal - lokale Effekte: 28,7 mg/cm²
DNEL Einatmen - lokale Effekte: 0,1 mg/m³ Luft
Arbeiter (Langzeitwert) :
DNEL Dermal - systemische Effekte:
Keine quantitative Risikobewertung möglich.
DNEL Einatmen - systemische Effekte: 0,05 mg/m³ Luft
DNEL Dermal - lokale Effekte:
Keine quantitative Risikobewertung möglich.
DNEL Einatmen - lokale Effekte: 0,05 mg/m³ Luft

- **PNECs**
DIPHENYLMETHANDIISOCYANATE (CAS 101-68-8):
Diphenylmethan-4,4'-diisocyanat
Süßwasser: > 1 mg/l
Meerwasser: > 0,1 mg/l
Sediment:
Nicht relevant
Boden: > 1 mg/kg Trockengewicht
Kläranlage: > 1 mg/l
Oral:
Nicht relevant

· **Ingredients with biological limit values:**

75-09-2 dichloromethane

BMGV	30 ppm Medium: end-tidal breath Sampling time: post shift Parameter: carbon monoxide
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- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Keep away from foodstuffs, beverages and food.

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Take off immediately all contaminated clothing
Wash hands during breaks and at the end of the work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

- **Breathing equipment:** Use breathing protection in case of insufficient ventilation.
- **Recommended filter device for short term use:** Combination filter A-P2
- **Protection of hands:**
Solvent resistant gloves



Protective gloves.

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

- **Material of gloves**
Fluorocarbon rubber (Viton)
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.
Recommended thickness of the material: ≥ 7 mm
- **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.
Value for the permeation: Level ≤ 4
The information is based on literature data and information of glove manufacturers.
- **Eye protection:**



Tightly sealed safety glasses.

- **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

- | | |
|-------------------------|-----------------|
| Form: | Fluid |
| Colour: | Brown |
| Odour: | Characteristic |
| Odour threshold: | Not determined. |

- | | |
|------------------|-----------------|
| pH-value: | Not determined. |
|------------------|-----------------|

· Change in condition

- | | |
|-------------------------------------|-------------------|
| Melting point/Melting range: | Not determined |
| Boiling point/Boiling range: | 40 °C (DIN 53171) |

- | | |
|---------------------|----------------|
| Flash point: | Not applicable |
|---------------------|----------------|

- | | |
|--|-----------------|
| Inflammability (solid, gaseous) | Not applicable. |
|--|-----------------|

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· Ignition temperature:	
· Decomposition temperature:	Not determined.
· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive.
· Critical values for explosion:	
Lower:	13.0 Vol % (EN 1839)
Upper:	22.0 Vol % (EN 1839)
· Vapour pressure at 20 °C:	453 hPa (DIN 51640)
· Density at 20 °C	1.29 g/cm ³ (DIN 51757)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
· Solvent content:	
Organic solvents:	ca. 71 %
Solids content:	ca. 29 % (ISO 3251)
· 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 and stored 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:**
Possible in traces.
Nitrous vitriol gases

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**

· **LD/LC50 values that are relevant for classification:**

75-09-2 dichloromethane

Oral	LD50	1600 mg/kg (rat)
	LDLo	357 mg/kg (Human)

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Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50/30 min.	88 mg/l (rat)
9016-87-9 diphenylmethanediisocyanate, isomeres and homologues		
Oral	LD50	> 15000 mg/kg (rat)
77-58-7 dibutyltin dilaurate		
Oral	LD50	175 mg/kg (rat)

- **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. May cause drowsiness or dizziness.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

• 12.1 Toxicity

• Aquatic toxicity:

75-09-2 dichloromethane	
EC50/48h	1682 mg/l (Daphnia magna)
IC50/96h	> 660 mg/l (Selenastrum capricornutum)
LC50/96h	220 mg/l (Lepomis macrochirus)
	310 mg/l (Pimephales promelas)
9016-87-9 diphenylmethanediisocyanate, isomeres and homologues	
EC50/24h	> 1000 mg/l (Daphnia magna)
EC50/3h	> 100 mg/l (activated sludge)
LC0/96h	> 1000 mg/l (Brachydanio rerio)

• 12.2 Persistence and degradability

75-09-2 dichloromethane	
Bio.Abbaubark./28 d	5 - 26 % (-)
9016-87-9 diphenylmethanediisocyanate, isomeres and homologues	
Bio.Abbaubark./28 d	0 % (-)

• **12.3 Bioaccumulative potential** No further relevant information available.

• **12.4 Mobility in soil** No further relevant information available.

• Additional ecological information:

• General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

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Do not allow product to reach ground water, water bodies or sewage system.

Danger to drinking water if even small quantities leak into soil.

- **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**

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

Must be specially treated under adherence to official regulations.

- **European waste catalogue**

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 04 00	wastes from MFSU of adhesives and sealants (including waterproofing products)
08 04 09*	waste adhesives and sealants containing organic solvents or other dangerous substances

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- **14.1 UN-Number**

- **ADR, IMDG, IATA**

UN1593

- **14.2 UN proper shipping name**

- **ADR**

- **IMDG, IATA**

1593 DICHLOROMETHANE
DICHLOROMETHANE

- **14.3 Transport hazard class(es)**

- **ADR, IMDG, IATA**



- **Class**

6.1 Toxic substances.

- **Label**

6.1

- **14.4 Packing group**

- **ADR, IMDG, IATA**

III

- **14.5 Environmental hazards:**

- **Marine pollutant:**

No

- **14.6 Special precautions for user**

- **Kemler Number:**

Warning: Toxic substances.

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- **EMS Number:**

F-A,S-A

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- | | |
|--|-----------------------------------|
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Limited quantities (LQ) | 5L |
| · Transport category | 2 |
| · Tunnel restriction code | E |
| · UN "Model Regulation": | UN1593, DICHLOROMETHANE, 6.1, III |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Technical instructions (air):**

Class	Share in %
I	50-100
- **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **VOC (EU) %** 70.88 %
- **Code MAL** 5-6
- **VOC (EU)** 914.4 g/l
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 - H301 Toxic if swallowed.
 - H314 Causes severe skin burns and eye damage.
 - 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.
 - H341 Suspected of causing genetic defects.
 - H351 Suspected of causing cancer.
 - H360 May damage fertility or the unborn child.
 - H372 Causes damage to organs through prolonged or repeated exposure.
 - H373 May cause damage to organs through prolonged or repeated exposure.
 - H400 Very toxic to aquatic life.
 - H410 Very toxic to aquatic life with long lasting effects.
- **Abbreviations and acronyms:**
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

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ICAO: International Civil Aviation Organisation
 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)
 DNEL: Derived No-Effect Level (REACH)
 PNEC: Predicted No-Effect Concentration (REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Acute Tox. 3: Acute toxicity, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
 Muta. 2: Germ cell mutagenicity, Hazard Category 2
 Carc. 2: Carcinogenicity, Hazard Category 2
 Repr. 1B: Reproductive toxicity, Hazard Category 1B
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
 STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1
 STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2
 Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
 Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

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Annex: Exposure scenario

- **Short title of the exposure scenario**
diphenylmethane-4,4'-di-isocyanate (CAS 101-68-8)
Professional and Industrial use of Adhesives
INDURSTRIAL USE IN RIGID FOAM, COATINGS, ADHESIVES AND SEALANTS
- **Sector of Use** SU3 *Industrial uses: Uses of substances as such or in preparations at industrial sites*
- **Product category** PC1 *Adhesives, sealants*
- **Process category**
 PROC1 *Use in closed process, no likelihood of exposure*
 PROC2 *Use in closed, continuous process with occasional controlled exposure*
 PROC3 *Use in closed batch process (synthesis or formulation)*
 PROC4 *Use in batch and other process (synthesis) where opportunity for exposure arises*
 PROC5 *Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)*
 PROC7 *Industrial spraying*
 PROC8a *Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities*
 PROC8b *Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities*
 PROC9 *Transfer of substance or preparation into small containers (dedicated filling line, including weighing)*
 PROC10 *Roller application or brushing*
 PROC13 *Treatment of articles by dipping and pouring*
 PROC14 *Production of preparations or articles by tableting, compression, extrusion, pelletisation*
 PROC15 *Use as laboratory reagent*
- **Environmental release category**
 ERC2 *Formulation of preparations*
 ERC3 *Formulation in materials*
 ERC5 *Industrial use resulting in inclusion into or onto a matrix*
 ERC6c *Industrial use of monomers for manufacture of thermo-plastics*
- **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.
8hrs (full working shift).
- **Environment**
Indoor and outdoor applications
Avoid contact to soil and / or ground water during application
- **Physical parameters**
- **Physical state** *Fluid*
- **Concentration of the substance in the mixture** *The substance is main component.*
- **Used amount per time or activity** *12000 annual tons per plant*
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** *No special measures required.*
- **Other operational conditions affecting worker exposure**
Ensure adequate ventilation, especially in closed rooms.
Avoid contact with eyes.
Avoid contact with the skin.
Avoid long-term or repeated skin contact.
Avoid breathing particles.
- **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.

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- **Risk management measures**
- **Worker protection**
*The usual precautionary measures should be adhered to general rules for handling chemicals.
 Keep away from foodstuffs, beverages and food.
 Take off immediately all contaminated clothing
 Wash hands during breaks and at the end of the work.
 Do not inhale gases / fumes / aerosols.
 Avoid contact with the eyes and skin.
 Use breathing protection in case of insufficient ventilation.*
- **Organisational protective measures**
*Keep good industrial hygiene.
 Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.
 No special measures required.*
- **Technical protective measures** *Ensure that suitable extractors are available on processing machines*
- **Personal protective measures**
*Do not inhale dust / smoke / mist.
 Avoid contact with the skin.
 Avoid contact with the eyes.
 Tightly sealed safety glasses.
 Use breathing protection in case of insufficient ventilation.
 Protective gloves.*
- **Environmental protection measures**
- **Water** *No special measures required.*
- **Disposal measures** *Ensure that waste is collected and contained.*
- **Disposal procedures**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Waste type** *Partially emptied and uncleaned packaging*
- **Exposure estimation**
- **Worker (dermal)** *The calculated value is smaller than the DNEL.*
- **Worker (inhalation)** *The calculated value is smaller than the DNEL.*
- **Consumer** *Not relevant for this Exposure Scenario.*

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