

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 16.03.2018

Version number 2

Revision: 16.03.2018

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

- **1.1 Product identifier**
- **Trade name:** helmitin® 676/2 9,5 KG
- **Article number:** 120004.0131.01
- **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**
Thinner, Diluent
Cleaning agent/ Cleaner
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
EURO-LEDER
Werner-von-Siemens-Str. 35 a
D – 49124 Georgsmarienhütte
Tel.: ++49 (0) 5401/88081-0
Mail: info@euro-service-depot.de
- **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**
Flam. Liq. 2 H225 Highly flammable liquid and vapour.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

- **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**



GHS02 GHS07 GHS08 GHS09

- **Signal word** Danger
- **Hazard-determining components of labelling:**
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane
Hydrocarbons, C6 isoalkanes, <5% n-hexane
ethyl acetate
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

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H336 May cause drowsiness or dizziness.
 H304 May be fatal if swallowed and enters airways.
 H411 Toxic 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.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 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.

- **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:**

Solvent mixture.
 Adhesive.

- **Dangerous components:**

CAS: 141-78-6 EINECS: 205-500-4 Reg.nr.: 01-2119475103-46-0000	ethyl acetate Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	25-50%
EC number: 921-024-6 Reg.nr.: 01-2119475514-35-0000	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336	25-50%
EC number: 931-254-9 Reg.nr.: 01-2119484651-34-0000	Hydrocarbons, C6 isoalkanes, <5% n-hexane Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336	10-25%
CAS: 78-93-3 EINECS: 201-159-0 Reg.nr.: 01-2119457290-43-0000	butanone Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	5-10%

- **Additional information** For the wording of the listed hazard 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.
 Take affected persons into the open air.

- **After inhalation** Supply fresh air; consult doctor in case of symptoms.

- **After skin contact**

Instantly wash with water and soap and rinse thoroughly.
 If skin irritation continues, consult a doctor.

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- **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.
- **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 fire with alcohol-resistant foam.
Use fire fighting measures that suit the environment.
Water haze
Foam
Fire-extinguishing powder
Carbon dioxide
- **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:** 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**
Use breathing protection against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
Wear protective clothing.
- **6.2 Environmental precautions:**
Do not allow to enter drainage system, surface or ground water.
Inform respective authorities in case product reaches water or sewage system.
- **6.3 Methods and material for containment and cleaning up:**
Dispose of contaminated material as waste according to item 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Send for recovery or disposal in suitable containers.
Do not use tools that can cause ignition.
- **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.

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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:**



Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.
Highly volatile, flammable constituents are released during processing.
Fumes can combine with air to form an explosive mixture.
Flammable mixtures may be formed in empty containers.

- **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:**
 - Keep container tightly sealed.
 - Protect from heat and direct sunlight.
 - Store in cool, dry conditions in original sealed container
- **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:**

141-78-6 ethyl acetate

WEL	Short-term value: 400 ppm Long-term value: 200 ppm
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78-93-3 butanone

WEL	Short-term value: 899 mg/m ³ , 300 ppm Long-term value: 600 mg/m ³ , 200 ppm Sk, BMGV
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- **DNELs**
 - Ethylacetat, CAS 141-78-6 (Arbeitnehmer)
 - dermal Langzeit(chronisch) systemisch: 63 mg/kg/Tag
 - inhalativ Kurzzeit (akut) systemisch: 1468 mg/m³
 - inhalativ Langzeit(chronisch) lokal: 734 mg/m³
 - inhalativ Kurzzeit (akut) lokal: 1468 mg/m³
 - inhalativ Langzeit (chronisch) systemisch: 734mg/m³
 - Ethylmethylketon CAS 78-93-3
 - Anwendungsbereich: Arbeitnehmer
 - Expositionswege: Hautkontakt
 - Mögliche Gesundheitsschäden: Langzeit - systemische Effekte

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Wert: 1161 mg/kg
 Anwendungsbereich: Arbeitnehmer
 Expositionswege: Einatmen
 Mögliche Gesundheitsschäden: Langzeit - systemische Effekte
 Wert: 600 mg/m³

• PNECs

Ethylacetat 141-78-6
 Wasser Süßwasser: 0,26 mg/l
 Wasser Meerwasser: 0,026 mg/l
 Wasser Aqua intermittent: 1,65 mg/l
 Wasser Süßwasser Sediment: 1,25 mg/kg
 Wasser Meerwasser Sediment: 0,125 mg/kg
 Boden - 0,24 mg/kg
 Kläranlage (STP) - 650 mg/l
 Sekundärvergiftung - 200 mg/kg
 Butanon CAS 78-93-3
 Meerwasser Wert: 55,8 mg/l
 Süßwassersediment Wert: 284,74 mg/kg
 Meeressediment Wert: 287,7 mg/kg
 Boden Wert: 22,5 mg/kg
 Süßwasser Wert: 55,8 mg/l

• Ingredients with biological limit values:
78-93-3 butanone

BMGV	70 µmol/L Medium: urine Sampling time: post shift Parameter: butan-2-one
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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.
 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:


Protective gloves.

Solvent resistant gloves

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

• Material of gloves

Recommended thickness of the material: ≥ 1 mm

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.

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- **Penetration time of glove material**

The information is based on literature data and information of glove manufacturers.

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

- **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:	Colourless
Odour:	Characteristic
Odour threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	63 °C (DIN 53171)

- **Flash point:** -26 °C (DIN 53213)

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

- **Decomposition temperature:** Not determined.

- **Self-inflammability:** Product is not selfigniting.

- **Explosive properties:** Product is not explosive. However, formation of explosive air/steam mixtures is possible.

- **Critical values for explosion:**

Lower:	0.7 Vol % (EN 1839)
Upper:	11.5 Vol % (EN 1839)

- **Vapour pressure at 20 °C:** 105 hPa (DIN 51640)

- **Density at 20 °C** 0.78 g/cm³ (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.

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- **Solvent content:**
- **Organic solvents:** 100.0 %
- **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** Develops readily flammable gases / fumes
- **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.

SECTION 11: Toxicological information

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

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

141-78-6 ethyl acetate

Oral	LD50	5,620 mg/kg (rat)
Inhalative	LC50/4h	22.5 mg/l (rat)

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

Oral	LD50	>5,800 mg/kg (rat)
Dermal	LD50	>2,900 mg/kg (rat)
Inhalative	LC50/4h	33 mg/l (rat)

Hydrocarbons, C6 isoalkanes, <5% n-hexane

Oral	LD50	>5,800 mg/kg (rat)
Dermal	LD50	>2,900 mg/kg (rat)
Inhalative	LC50/4h	33 mg/l (rat)

78-93-3 butanone

Oral	LD50	>2,600 mg/kg (rat)
Dermal	LD50	>8,000 mg/kg (rbt)
Inhalative	LC50/2h	40 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause drowsiness or dizziness.

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- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

141-78-6 ethyl acetate

LC50/96h	230 mg/l (Pimephales promelas)
IC50/48h	3,300 mg/l (Desmodesmus subspicatus)
EC50/48h	717 mg/l (Daphnia magna)

78-93-3 butanone

LC50/96h	3,220 mg/l (Pimephales promelas)
EC50/48h	5,091 mg/l (Daphnia magna)

12.2 Persistence and degradability

141-78-6 ethyl acetate

Bio.Abbaubark./28 d	100 % (-)
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- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.

Ecotoxicological effects:

· **Remark:** Toxic for fish

Additional ecological information:

General notes:

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

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

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

Also poisonous for fish and plankton in water bodies.

Toxic for 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

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

14 00 00	WASTE ORGANIC SOLVENTS, REFRIGERANTS AND PROPELLANTS (EXCEPT 07 AND 08)
14 06 00	waste organic solvents, refrigerants and foam/aerosol propellants
14 06 03*	other solvents and solvent mixtures

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

SECTION 14: Transport information

<ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA 	UN1993
<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG · IATA 	1993 FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE, HEPTANES), ENVIRONMENTALLY HAZARDOUS, special provision 640D FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE, HEPTANES), MARINE POLLUTANT FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE, HEPTANES)
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR, IMDG 	<div style="display: flex; align-items: center; gap: 10px;">   </div> <ul style="list-style-type: none"> · Class · Label
<ul style="list-style-type: none"> · IATA 	<div style="display: flex; align-items: center; gap: 10px;">  </div> <ul style="list-style-type: none"> · Class · Label
<ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA 	II
<ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR): 	Product contains environmentally hazardous substances: Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics (*) Yes Symbol (fish and tree) Symbol (fish and tree)
<ul style="list-style-type: none"> · 14.6 Special precautions for user · Kemler Number: · EMS Number: · Stowage Category 	Warning: Flammable liquids. 33 F-E, S-E B
<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code 	Not applicable.

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· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **Transport category**

2

· **Tunnel restriction code**

D/E

· **IMDG**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 1993 FLAMMABLE LIQUID, N.O.S., SPECIAL PROVISION 640D (ETHYL ACETATE, HEPTANES), 3, II, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

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

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40

· **National regulations**

· **Technical instructions (air):**

Class	Share in %
NK	50-100

· **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

· **VOC (EU) %** 100.00 %

· **Code MAL** 5-3

· **VOC (EU)** 780.0 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**

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

· **Department issuing data specification sheet:** Regulatory department

· **Contact:** EU-MSDS@hbfuller.com

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· **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)

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

Flam. Liq. 2: Flammable liquids – Category 2

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

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

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

Asp. Tox. 1: Aspiration hazard – Category 1

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

· *** Data compared to the previous version altered.**

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Annex: Exposure scenario 1

- **Short title of the exposure scenario**
 ETHYL ACETATE (CAS141-78-6)
 INDUSTRIAL 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 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
 PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
 PROC5 Mixing or blending in batch processes
 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 PROC10 Roller application or brushing
 PROC13 Treatment of articles by dipping and pouring
- **Environmental release category**
 ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
- **Description of the activities / processes covered in the Exposure Scenario**
 See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use** Customary application according to section 1.
- **Duration and frequency**
 8hrs (full working shift).
 5 workdays/week.
- **Physical parameters**
- **Physical state** Liquid
- **Concentration of the substance in the mixture** The substance is main component.
- **Used amount per time or activity** 5500 tons per year
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting worker exposure**
 Avoid contact with the skin and 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**
 Ensure adequate ventilation
 Do not inhale gases / fumes / aerosols.
- **Organisational protective measures** Keep good industrial hygiene.
- **Technical protective measures**
 Provide explosion-proof electrical equipment.
 Keep containers tightly sealed.
 Ensure that suitable extractors are available on processing machines
- **Personal protective measures**
 Protective work clothing.
 Do not inhale gases / fumes / aerosols.
 Avoid contact with the eyes.
 Tightly sealed safety glasses.
 Protective gloves.

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- **Measures for consumer protection**
Ensure adequate labelling.
Keep locked up and out of the reach of children.
- **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.*
- **Environment** *The calculated value is smaller than the PNEC.*
- **Consumer** *Not relevant for this Exposure Scenario.*
- **Guidance for downstream users**
Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.

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Safety data sheet

according to 1907/2006/EC, Article 31

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Annex: Exposure scenario 2

- **Short title of the exposure scenario** butanone (CAS 78-93-3)
- **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 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
 - PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
 - PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
 - PROC4 Chemical production where opportunity for exposure arises
 - PROC5 Mixing or blending in batch processes
 - PROC7 Industrial spraying
 - PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 - PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 - PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
 - PROC10 Roller application or brushing
 - PROC13 Treatment of articles by dipping and pouring
 - PROC14 Tableting, compression, extrusion, pelletisation, granulation
 - PROC15 Use as laboratory reagent
- **Environmental release category**
 - ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
- **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use** According to directions for use.
- **Duration and frequency**
 - 5 workdays/week.
 - 8hrs (full working shift).
- **Physical parameters**
- **Physical state** Fluid
- **Concentration of the substance in the mixture** Raw material.
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting worker exposure**
 - 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**
 - 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.
 - Avoid contact with the eyes and skin.
 - Use breathing protection in case of insufficient ventilation.
- **Organisational protective measures** Deploy only trained chemical workers.
- **Technical protective measures**
 - Provide explosion-proof electrical equipment.

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Ensure that suitable extractors are available on processing machines

· **Personal protective measures**

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes.

Tightly sealed safety glasses.

Protective gloves.

· **Measures for consumer protection**

Ensure adequate labelling.

Keep locked up and out of the reach of children.

· **Environmental protection measures**

· **Water** *No special measures required.*

· **Disposal measures** *Disposal must be made according to official regulations.*

· **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.*

· **Guidance for downstream users** *No further relevant information available.*

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