

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 19.03.2021

Version number 34

Revision: 19.03.2021

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

- **1.1 Product identifier**
- **Molecular formula:** C₂ H₃ N
- **Structure formula:** C H₃ - C N
- **Trade name:** Acetonitrile
- **SDS number:** CH0080
- **CAS Number:**
75-05-8
- **EC number:**
200-835-2
- **Index number:**
608-001-00-3
- **Application of the substance / the mixture** Chemicals products for laboratory
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
CARLO ERBA REAGENTS
Chaussée du Vexin
Parc d'Affaires des Portes - BP616
27106 VAL DE REUIL Cedex
Téléphone: +33 (0)2 32 09 20 00
Télécopie: +33 (0)2 32 09 20 20
- **Further information obtainable from:**
Q.A / Normative
email: MSDS_CER-SDS@cer.dgroup.it
- **1.4 Emergency telephone number:**
France (ORFILA 24h/24) - Tel : +33 (0)1 45 42 59 59
Ireland - Tel : 00 353 1 8092568 - 00 353 1 8379964 (24h/24)
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. 2 H225 Highly flammable liquid and vapour.



Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.
Eye Irrit. 2 H319 Causes serious eye irritation.

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

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- **Hazard pictograms**



GHS02 GHS07

- **Signal word** *Danger*

- **Hazard statements**

H225 *Highly flammable liquid and vapour.*
 H302+H312+H332 *Harmful if swallowed, in contact with skin or if inhaled.*
 H319 *Causes serious eye irritation.*

- **Precautionary statements**

P210 *Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*
 P241 *Use explosion-proof [electrical/ventilating/lighting] equipment.*
 P280 *Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.*
 P303+P361+P353 *IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*
 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.*

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**

- **CAS No. Description**
75-05-8 Acetonitrile

- **Identification number(s)**

- **EC number:** 200-835-2

- **Index number:** 608-001-00-3

SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information:**

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

- **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

- **After skin contact:**

Immediately wash with water and soap and rinse thoroughly. Wash contaminated clothing before reuse. If skin irritation continues, consult a doctor.

- **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

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Seek immediate medical advice.

- **Information for doctor:** Show the doctor this Material Safety Data Sheet.
- **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**
- **General Information:**
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
- **Suitable extinguishing agents:** CO₂ or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet.
- **5.2 Special hazards arising from the substance or mixture**
Nitrogen oxides (NO_x)
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
In the absence of oxygen: Ammonia (NH₃).
- **5.3 Advice for firefighters**
- **Protective equipment:**
In closed rooms wear a self contained breathing apparatus.
Do not inhale gases in case of fire or combustion.
- **Additional information** Keep receptacles cool with water spray.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Keep away any ignition source.
Wear protective equipment. Keep unprotected persons away.
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.
Ensure adequate ventilation
- **General Information:** Use proper personal protective equipment as indicated in Section 8.
- **6.2 Environmental precautions:**
Dilute with plenty of water after collecting the liquid.
Do not allow to penetrate the ground/soil.
Prevent seepage into sewage system, workpits and cellars.
- **6.3 Methods and material for containment and cleaning up:**
Collect the liquid with vacuum in a suitable container and absorb the remainder with a porous material (diatomite, acid binders, universal binders, etc).
Ensure adequate ventilation.
Dispose contaminated material as waste according to item 13.
- **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**
Store in cool, dry place in tightly closed receptacles.

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Ensure good ventilation/exhaustion at the workplace.
 Only handle and refill product in closed systems or under local exhaust.
 Pneumatic conveyance only with nitrogen or other inert gases.

· **Information about fire - and explosion protection:**



Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Use only receptacles specifically permitted for this substance/product.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Additional information about design of technical facilities:** No further data; see item 7.

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

CAS: 75-05-8 Acetonitrile

<i>WEL</i>	Short-term value: 102 mg/m ³ , 60 ppm
	Long-term value: 68 mg/m ³ , 40 ppm

· **DNELs**

<i>Dermal</i>	DNEL (workers-systemic chronic effects)	32.2 mg/kg
<i>Inhalative</i>	DNEL (workers-local effects Acute)	68 mg/m ³
	DNEL (workers-acute systemic)	68 mg/m ³
	DNEL (workers-local acute effects)	68 mg/m ³
	DNEL (workers-local chronic effects)	68 mg/m ³
	DNEL (workers-systemic chronic effects)	68 mg/m ³

· **PNECs**

<i>PNEC (Fresh water)</i>	10 mg/l
<i>PNEC (Freshwater sediment)</i>	45 mg/kg
<i>PNEC (Marine water)</i>	1 mg/l
<i>PNEC (Seawater sediment)</i>	4.5 mg/l
<i>PNEC (STP)</i>	32 mg/l
<i>PNEC (Soil)</i>	3 mg/kg

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

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Avoid contact with the eyes and skin.

Clean skin thoroughly immediately after handling the product.

Respiratory protection:

Use suitable respiratory protective device only when aerosol or mist is formed.



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.

Suitable respiratory protective device recommended in case of leakages or handling in open devices.

Use suitable respiratory protective device in case of insufficient ventilation.

Protection of hands:

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



Protective gloves

Rubber gloves

Material of gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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

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.

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.

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

The penetration time has to be at least 240 minutes

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.5 mm

Eye protection:



Tightly sealed goggles

Limitation and supervision of exposure into the environment

In case of unintended release of the product: See section 6 of the Safety Data Sheet.

Risk management measures *Keep good industrial hygiene.*

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Molecular weight	41.05 g
Appearance:	
Form:	Fluid
Colour:	Colourless
Odour:	Light
Odour threshold:	Not determined.
pH-value:	Not determined.

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- **Change in condition**
 - Melting point/freezing point:** -46 °C
 - Initial boiling point and boiling range:** 81 °C
- **Flash point:** 12.8 °C (c.c.)
- **Flammability (solid, gas):** Not applicable.
- **Ignition temperature:** 525 °C
- **Decomposition temperature:** Not determined.
- **Auto-ignition temperature:** Not determined.
- **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
- **Explosion limits:**
 - Lower:** 4.4 Vol %
 - Upper:** 16 Vol %
- **Vapour pressure at 20 °C:** 97 hPa
- **Vapour pressure (2) at 50 °C:** 330 hPa
- **Density at 20 °C:** 0.7822 g/cm³
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with water at 25 °C:** 1000 g/l
- **organic solvents:** Miscible with many organic solvents.
- **Partition coefficient: n-octanol/water:** -0.54061
- **Viscosity:**
 - Dynamic at 20 °C:** 0.39 mPas
 - Kinematic:** Not determined.
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** See 10.3
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Keadaan yang Perlu Dielakkan: Haba, api dan percikan api.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- **10.5 Incompatible materials:** Strong oxidizing agents, Strong acids, Strong bases.
- **10.6 Hazardous decomposition products:**
Danger of forming toxic pyrolysis products.
Carbon monoxide, Carbon dioxide.
Nitrogen oxides (NO_x)

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed, in contact with skin or if inhaled.

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· LD/LC50 values relevant for classification:

Oral	LD50	617 mg/kg (mouse)
Dermal	LD50	>2000 mg/kg (rabbit)
Inhalative	LC50/4 h	6.022 mg/L (mouse) 26.8 mg/L (rat)

· Primary irritant effect:
· Skin corrosion/irritation May cause skin irritation.

· Serious eye damage/irritation

Strong irritant with the danger of severe eye injury.

Causes serious eye irritation.

· Ingestion:

It can be harmful if swallowed.

Harmful if swallowed.

· Inhalation: Harmful if inhaled.

· Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

· Other information (about experimental toxicology): No further relevant information available.

· Target organ information
· 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 Based on available data, the classification criteria are not met.

· 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:

ECr50	9696 mg/L (algae) (72h, <i>Phaeodactylum tricornutum</i>)
NOEC	>960 mg/L (<i>Daphnia</i>) (21 days, <i>Daphnia magna</i>) >102 mg/L (fishes) (21 days, <i>Oryzias latipes</i>)
EC50/48h	7943 mg/l (algae) (<i>Raphidocelis subcapitata</i>)
LC50/96h	1640 mg/l (fishes) (<i>Pimephales promelas</i>)
LC50	521 mg/l (48h, <i>Artemia salina</i> larva) >1000 mg/l (fishes) (48h, <i>Oryzias latipes</i>)

· 12.2 Persistence and degradability No further relevant information available.

· Method
· Ecological information Not available

· Other information:

The product is biodegradable.

B.O.D. 5: 0.029 (-1%)

· 12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

· 12.4 Mobility in soil No further relevant information available.

· Additional ecological information:
· General notes:

Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water

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

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

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- **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 together with household garbage. Do not allow product to reach sewage system. Reutilise if possible or contact a waste processors for recycling or safe disposal.
- **Uncleaned packaging:**
The containers and packaging materials contaminated with dangerous substances or preparations, have the same treatment of products.
Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.
- **Recommendation:**
Disposal must be made according to official regulations.
Wash with solvents to be incinerated.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|---|---------------------------|
| · 14.1 UN-Number | UN1648 |
| · ADR/RID, IMDG, IATA | |
| · 14.2 UN proper shipping name | 1648 ACETONITRILE |
| · ADR/RID | ACETONITRILE |
| · IMDG | Acetonitrile |
| · IATA | |
| · 14.3 Transport hazard class(es) | |
| · ADR/RID | |
|  | |
| · Class | 3 (F1) Flammable liquids. |
| · Label | 3 |
| · IMDG, IATA | |
|  | |
| · Class | 3 Flammable liquids. |
| · Label | 3 |
| · 14.4 Packing group | II |
| · ADR/RID, IMDG, IATA | |

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- | | |
|--|--|
| · 14.5 Environmental hazards: | |
| · Marine pollutant: | No |
| · 14.6 Special precautions for user | Warning: Flammable liquids. |
| · Hazard identification number (Kemler code): | 33 |
| · EMS Number: | F-E,S-D |
| · Stowage Category | B |
| · Stowage Code | SW2 Clear of living quarters. |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR/RID | |
| · Excepted quantities (EQ): | E2 |
| · 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 1648 ACETONITRILE, 3, II |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
 - **Chemical safety assessment**
 - **Named dangerous substances - ANNEX I** Substance is not listed.
 - **Seveso category P5c** FLAMMABLE LIQUIDS
 - **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5000 t
 - **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50000 t
 - **National regulations:**
 - **Technical instructions (air):**
- | Class | Share in % |
|-------|------------|
| NK | 50-100 |
- **Waterhazard class:** Water hazard class 2 (Assessment by list): hazardous for water.
 - **Other regulations, limitations and prohibitive regulations**
 - **Substances of very high concern (SVHC) according to REACH, Article 57** Substance is not listed.
 - **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.

- **Department issuing SDS:** Q.A./Normative

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References

ECDIN (Environmental Chem. Data and Information Network)
IUCLID (International Uniform Chemical Information Database)
NIOSH - Registry of Toxic Effects of Chemical Substances
Roth - Wassergefährdende Stoffe
Verschueren - Handbook of Environmental Data on Organic Chemicals
ChemDAT - Safety Data Sheets from E.Merck on CD-ROM
Merian - Metals and their compounds in the environment

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
RCR : Risk Characterisation Ratio
ADR: Accord relatif au transport international 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
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
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Sources

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH, in latest valid version.
Globally Harmonized System, GHS
Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.
ADR, IMDG, IATA

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

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Annex: Exposure scenario 1

- **Short title of the exposure scenario**
- **Sector of Use** Industrial use.
- **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
 - 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)
- **Environmental release category**
 - ERC1 Manufacture of the substance
 - ERC2 Formulation into mixture
 - ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
 - ERC6a Use of intermediate
 - ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
 - ERC7 Use of functional fluid at industrial site
- **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.
 - Customary application according to section 1.
- **Duration and frequency** 8hrs (full working shift).
- **Worker** 8hrs (full working shift).
- **Environment** 365 d/y
- **Physical parameters**
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
- **Physical state** Fluid
- **Concentration of the substance in the mixture** Raw material.
- **Used amount per time or activity** >1000 tons per year
- **Other operational conditions** Observe the general safety regulations when handling chemicals.
- **Other operational conditions affecting environmental exposure**
Observe section 6 of the Safety Data Sheet (Accidental release measures).
- **Other operational conditions affecting worker exposure**
 - Avoid contact with eyes.
 - Avoid contact with the skin.
 - Do not breathe gas/vapour/aerosol.
 - Take precautionary measures against static discharge.
 - Keep away from sources of ignition - No smoking.
 - Respiratory protection is required in work areas with inadequate ventilation and during spraying application.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
 - Keep good industrial hygiene.
 - Ensure that activities are executed by specialists or authorised personnel only.
 - Provide sufficient washing facilities.
 - Work clothes must not consist of textiles that exhibit dangerous melting behaviour in case of fire.

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· **Technical protective measures**

Provide explosion-proof electrical equipment.
Ensure good ventilation/exhaustion at the workplace.
Ensure that suitable extractors are available on processing machines

· **Personal protective measures**

Do not inhale gases / fumes / aerosols.
Avoid contact with the skin.
Avoid contact with the eyes.
Tightly sealed goggles
Use suitable respiratory protective device only when aerosol or mist is formed.
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.
Suitable respiratory protective device recommended in case of leakages or handling in open devices.
Use suitable respiratory protective device in case of insufficient ventilation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Protective gloves
Rubber gloves
Tightly sealed goggles
The usual precautionary measures are to be adhered to when handling chemicals.
Detailed measures on hand protection according to Safety Data Sheet, section 8.

· **Environmental protection measures**

· **Air** Exhaust air is introduced into the gas scrubber.

· **Water**

Do not allow to reach sewage system. Dispose of this product and its container at hazardous or special waste collection point.

· **Notes** In case of unintended release of the product: See section 6 of the Safety Data Sheet.

· **Disposal measures**

Disposal must be made according to official regulations.
Ensure that all wastewater is collected and treated in a wastewater treatment plant.
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**

· **Worker (dermal)**

The highest dermal exposure to be expected is 13.71 mg / kg / day.
The exposure estimation was carried out in accordance with ECETOC TRA.

· **Worker (inhalation)**

The highest inhalative exposure to be expected is 60 ppm.
The exposure estimation was carried out in accordance with ECETOC TRA.

· **Consumer** Not relevant for this Exposure Scenario.

· **Guidance for downstream users**

Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.

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Annex: Exposure scenario 2

- **Short title of the exposure scenario** Chemicals products for laboratory
- **Sector of Use** Industrial use.
- **Process category**
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC15 Use as laboratory reagent
- **Environmental release category**
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC6a Use of intermediate
ERC7 Use of functional fluid at industrial site
- **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** 5 workdays/week.
- **Worker 8hrs** (full working shift).
- **Environment** 365 d/y
- **Physical parameters**
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
- **Physical state** Fluid
- **Concentration of the substance in the mixture** Raw material.
- **Used amount per time or activity** >1000 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 eyes.
Avoid contact with the skin.
Do not breathe gas/vapour/aerosol.
Take precautionary measures against static discharge.
Keep away from sources of ignition - No smoking.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** Keep good industrial hygiene.
- **Technical protective measures** No special measures required.
- **Personal protective measures**
Avoid contact with the skin.
Avoid contact with the eyes.
Use suitable respiratory protective device only when aerosol or mist is formed.
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.
Suitable respiratory protective device recommended in case of leakages or handling in open devices.
Use suitable respiratory protective device in case of insufficient ventilation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Protective gloves
Rubber gloves
Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.
Tightly sealed goggles
- **Environmental protection measures**
- **Notes** In case of unintended release of the product: See section 6 of the Safety Data Sheet.
- **Disposal measures** Ensure that waste is collected and contained.

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· **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**

· **Worker (dermal)**

The highest dermal exposure to be expected is 0.343 mg / kg / day.

The exposure estimation was carried out in accordance with ECETOC TRA.

· **Worker (inhalation)**

The highest inhalative exposure to be expected is 42.8 ppm.

The exposure estimation was carried out in accordance with ECETOC TRA.

· **Consumer** *Not relevant for this Exposure Scenario.*

· **Guidance for downstream users**

Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.

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Annex: Exposure scenario 3

- **Short title of the exposure scenario** Formulation or re-packing
- **Sector of Use** Industrial use.
- **Process category**
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC5 Mixing or blending in batch processes
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
- **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** 5 workdays/week.
- **Worker** 8hrs (full working shift).
- **Environment** 365 d/y
- **Physical parameters**
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
- **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.
Avoid contact with the skin.
Do not breathe gas/vapour/aerosol.
Take precautionary measures against static discharge.
Keep away from sources of ignition - No smoking.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** Keep good industrial hygiene.
- **Technical protective measures** No special measures required.
- **Personal protective measures**
Avoid contact with the skin.
Avoid contact with the eyes.
Use suitable respiratory protective device only when aerosol or mist is formed.
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.
Suitable respiratory protective device recommended in case of leakages or handling in open devices.
Use suitable respiratory protective device in case of insufficient ventilation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Protective gloves
Rubber gloves
Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.
Tightly sealed goggles
- **Environmental protection measures**
- **Notes** In case of unintended release of the product: See section 6 of the Safety Data Sheet.
- **Disposal measures** 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

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· Exposure estimation**· Worker (dermal)**

The highest dermal exposure to be expected is 13.7 mg / kg / day.

The exposure estimation was carried out in accordance with ECETOC TRA.

· Worker (inhalation)

The highest inhalative exposure to be expected is 171 ppm.

The exposure estimation was carried out in accordance with ECETOC TRA.

· Consumer Not relevant for this Exposure Scenario.**· Guidance for downstream users**

Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.

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