

Safety data sheet
according to 1907/2006/EC, Article 31 Commission
regulation (EU) 2020/878

Printing date 02.01.2024

Version number 9.0 (replaces version 8.0)

Revision: 02.01.2024

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

1.1 Product identifier

• **Trade name:** N,N-Dimethylformamide, 99,8%, anhydrous (max. 0,005% H₂O)

• **Article number:** DI1063

• **CAS Number:**

68-12-2

• **EC number:**

200-679-5

• **Index number:**

616-001-00-X

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

No further relevant information available.

• **Application of the substance / the preparation:** Laboratory reagent

1.3 Details of the supplier of the safety data sheet

• **Manufacturer/Supplier:**

Scharlab, S.L.

C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa

08181 Sentmenat (Barcelona) SPAIN

Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65

email: scharlab@scharlab.com

Internet Web Site: www.scharlab.com

• **Regional representation:**

Scharlab, S.L.

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08181 Sentmenat (Barcelona) SPAIN

Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65

email: scharlab@scharlab.com

Internet Web Site: www.scharlab.com

• **Further information obtainable from:** Technical Department

1.4 Emergency telephone number:

Please contact the regional Scharlab distributor/dealer in your country

During normal opening times: Scharlab, S.L. (+34) 93 715 18 11

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

• **Classification according to Regulation (EC) No 1272/2008**



flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



health hazard

Repr. 1B H360D May damage the unborn child.



Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

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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 GB CLP regulation.

• Hazard pictograms

GHS02 GHS07 GHS08

• Signal word Danger**• Hazard statements**

- H226 Flammable liquid and vapour.
H312+H332 Harmful in contact with skin or if inhaled.
H319 Causes serious eye irritation.
H360D May damage the unborn child.

• Precautionary statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.
P370+P378 In case of fire: Use CO₂, powder or water spray to extinguish.
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**• 3.1 Substances****• CAS No. Description**

68-12-2 N,N-dimethylformamide

• Identification number(s)• **EC number:** 200-679-5• **Index number:** 616-001-00-X**• SVHC**

68-12-2 N,N-dimethylformamide

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.
Seek medical treatment.

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• After inhalation:

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

In case of unconsciousness place patient stably in side position for transportation.

In severe cases such as cardiorespiratory arrest, artificial respiration techniques such as mouth-to-mouth resuscitation, cardiac massage, oxygen supply, etc. will be applied.

• After skin contact:

Immediately remove all contaminated clothing.

Immediately wash with water and soap and rinse thoroughly.

Wash contaminated clothing before reuse.

If the product causes burns or frostbite, clothing should not be removed as this may worsen the injury if it is stuck to the skin.

If blisters form on the skin, they should never burst as this increases the risk of infection.

If skin irritation continues, consult a doctor.

• After eye contact:

Rinse opened eye for several minutes under running water. Then consult a doctor.

If the casualty wears contact lenses, they should be removed as long as they are not stuck to the eyes, otherwise additional damage may occur.

• After swallowing: Call a doctor immediately.**• 4.2 Most important symptoms and effects, both acute and delayed**

The main symptoms are described for the different cases of contact: skin, eyes, inhalation and ingestion.

• 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures**• 5.1 Extinguishing media****• Suitable extinguishing agents:**

ABC powder

Alcohol resistant foam

Carbon dioxide

Use fire extinguishing methods suitable to surrounding conditions.

• For safety reasons unsuitable extinguishing agents: Pressurised water 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:**

Respiratory protection and full chemical protective clothing must be provided for extinguishing work.

Wear fully protective suit.

Wear self-contained respiratory protective device.

• Additional information

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures**• 6.1 Personal precautions, protective equipment and emergency procedures**

Isolate leaks as long as it does not pose an additional risk to persons performing this function.

Evacuate and restrict access.

Ensure adequate ventilation

Eliminate all sources of ignition.

• 6.2 Environmental precautions:

Dilute with plenty of water.

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- Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Send for recovery or disposal in suitable receptacles.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 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**
Store in cool, dry place in tightly closed receptacles.
Ground/equipotential bonding of vessel and receiving equipment.
Use only non-sparking tools.
Take precautionary measures against electrostatic discharge.
Avoid breathing mist / vapours / aerosol.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Do not eat, drink or smoke during use.
Wash hands after handling.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
• **Requirements to be met by storerooms and receptacles:**
Store in a cool, dry and well-ventilated place.
Store only in unopened original receptacles.
Observe the precautions and storage information on the product label.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
Keep container tightly sealed.
See product label for storage temperature.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
68-12-2 N,N-dimethylformamide
WEL Short-term value: 30 mg/m³, 10 ppm
Long-term value: 15 mg/m³, 5 ppm
Sk
- **DNELs**
DNEL worker, cronic. Systematic effects: Dermic - 1.1 mg/kg body weight
DNEL worker, cronic. Systematic effects: Inhalative - 6 mg/m³
DNEL consumer, prolonged. Systematic effects: Oral - 0.16 mg/kg body weight
DNEL consumer, prolonged. Systematic effects: Inhalative - 1.1 mg/m³
- **PNECs**
PNEC (Freshwater sediments): 111 mg/kg
PNEC (Seawater sediments): 11.1 mg/kg
PNEC (Residual water depuration system): 44 mg/l

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- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as 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.
 Store protective clothing separately.
 Avoid contact with the eyes.
 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.
- **Hand protection**



Protective gloves

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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.
- **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.
- **Eye/face protection**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Physical state** Fluid
- **Colour:** Colourless
- **Odour:** Amine-like
- **Odour threshold:** Not determined.
- **Melting point/freezing point:** -61 °C
- **Boiling point or initial boiling point and boiling range** 152.5-153.5 °C
- **Flammability** Not applicable.
- **Lower and upper explosion limit**
- **Lower:** 2.2 Vol %
- **Upper:** 16 Vol %
- **Flash point:** 58 °C

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· Auto-ignition temperature:	440 °C
· Decomposition temperature:	Not determined.
· pH	7
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic at 20 °C:	0.802 mPas
· Solubility	
· water:	Fully miscible.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure at 20 °C:	3.7 hPa
· Density and/or relative density	
· Density at 20 °C:	0.95 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· 9.2 Other information	
· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Not determined.
· Explosive properties:	Not determined.
· Molecular weight	73.1 g/mol
· Change in condition	
· Evaporation rate	Not determined.
· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Flammable liquid and vapour.
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Stable under normal conditions. No decomposition if used according to regulations.
- **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.

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- **10.4 Conditions to avoid**
Heat, flame and sparks
Radiation
Electrostatic charges
Exposure to light.
- **10.5 Incompatible materials:**
Strong acids
Strong alkalis
Oxidising materials.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful in contact with skin or if inhaled.
- **LD/LC50 values relevant for classification:**

Oral	LD50	2,800 mg/kg (rat)
Dermal	LD50	1,500 mg/kg (rabbit)
Inhalative	LC50/4 h	12 mg/l (rat)
- **Serious eye damage/irritation** Causes serious eye irritation.
- **Reproductive toxicity** May damage the unborn child.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
Toxicity to fish
LC50 - Pimephales promelas (Fathead piscardo) - 10400 mg/L - 96 h
NOEC - Oryzias latipes (Carpa) - 102 mg/L (8h)
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (large sea flea) - 15700 mg/L - 48 h
NOEC - Daphnia magna (large sea flea) - 1500 mg/L - 8h
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential**
Bioconcentration Factor (BCF): 3.
Log Pow: -1.01 (25°C)
Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.
- **12.4 Mobility in soil**
Log Koc: 7 (25°C)
Surface tension: 34.43 mN/m
Highly mobile
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **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.

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

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SECTION 13: Disposal considerations

• **13.1 Waste treatment methods**

• **Recommendation**

Must be specially treated adhering to official regulations.

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

The waste code indicated in this document is indicative according to the properties of each substance, but does not always apply.

It is recommended to consult the local/national waste manager for more details on the waste and waste management regulations, which differ according to the legislation of each country.

• **Uncleaned packaging:**

• **Recommendation:**

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

• **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

• **14.1 UN number or ID number**

• **ADR, IMDG, IATA**

UN2265

• **14.2 UN proper shipping name**

• **ADR**

2265 N,N-DIMETHYLFORMAMIDE

• **IMDG, IATA**

N,N-DIMETHYLFORMAMIDE

• **14.3 Transport hazard class(es)**

• **ADR, IMDG, IATA**



• **Class**

3 Flammable liquids.

• **Label**

3

• **14.4 Packing group**

• **ADR, IMDG, IATA**

III

• **14.5 Environmental hazards:**

• **Marine pollutant:**

No

• **14.6 Special precautions for user**

Warning: Flammable liquids.

• **Hazard identification number (Kemler code):**

30

• **EMS Number:**

F-E,S-D

• **Stowage Category**

A

• **14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

• **Transport/Additional information:**

• **ADR**

• **Limited quantities (LQ)**

5L

• **Transport category**

3

• **Tunnel restriction code**

D/E

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· **UN "Model Regulation":**

UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III

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SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
 - **Poisons Act**
 - **Regulated explosives precursors** Substance is not listed.
 - **Regulated poisons** Substance is not listed.
 - **Reportable explosives precursors** Substance is not listed.
 - **Reportable poisons** Substance is not listed.
 - **Directive 2012/18/EU**
 - **Named dangerous substances - ANNEX I -**
 - **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
 - **National regulations:**
 - **Substances of very high concern (SVHC) according to UK REACH**
-
- 68-12-2 N,N-dimethylformamide
- **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:** Product Safety Department

· **Contact:** msds@scharlab.com

· **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 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 (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

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

Repr. 1B: Reproductive toxicity – Category 1B

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Annex: Exposure scenario 1

- **1 - Short title of the exposure scenario** Industrial use
- **Sector of Use**
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC21 Laboratory chemicals
- **Process category** PROC15 Use as laboratory reagent
- **Environmental release category**
ERC1 Manufacture of the substance
ERC2 Formulation into mixture
- **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
- **2 - Conditions of 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.
Covers a percentage of substance in the product up to 100 %.
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting worker exposure**
Keep container in a well-ventilated place.
Enter closed rooms only if ventilation is adequate.
Avoid contact with eyes.
Avoid contact with the skin.
Do not breathe gas/vapour/aerosol.
- **Other operational conditions affecting consumer exposure** No special measures required.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
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.
- **Technical protective measures**
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.
Pregnant women should strictly avoid inhalation or skin contact.
Tightly sealed goggles
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
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Measures for consumer protection** Ensure adequate labelling.

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Environmental protection measures**Air** No special measures required.**Water** No special measures required.**Soil** No special measures required.**Disposal measures**

Disposal must be made according to official regulations.

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**3 - Exposure estimation****Worker (dermal)**

RCR: 0.01

Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.**Worker (inhalation)**

RCR: 0.20

Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.**4 - 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.

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.

For the risk assessment, the tools recommended by ECHA can be used.

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Annex: Exposure scenario 2

- **1 - Short title of the exposure scenario** Laboratory use
- **Sector of Use**
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC21 Laboratory chemicals
- **Process category** 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
- **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
- **2 - Conditions of 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.
Covers a percentage of substance in the product up to 100 %.
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting worker exposure**
Indoor application.
Keep container in a well-ventilated place.
Enter closed rooms only if ventilation is adequate.
Avoid contact with eyes.
Avoid contact with the skin.
Do not breathe gas/vapour/aerosol.
- **Other operational conditions affecting consumer exposure** No special measures required.
- **Risk management measures**
Application in a ventilated cabin with filtered air under pressure. Effectiveness 90%.
- **Worker protection**
- **Organisational protective measures**
Ensure good ventilation. This can be achieved by using a local exhaust 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.
- **Technical protective measures**
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.
Pregnant women should strictly avoid inhalation or skin contact.
Tightly sealed goggles
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Protective gloves
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Trade name: N,N-Dimethylformamide, 99,8%, anhydrous (max. 0,005% H₂O)

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- **Measures for consumer protection** Ensure adequate labelling.
- **Environmental protection measures**
- **Air** No special measures required.
- **Water** No special measures required.
- **Soil** No special measures required.
- **Disposal measures**
Disposal must be made according to official regulations.
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
- **3 - Exposure estimation**
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise stated.
- **Worker (dermal)**
PROC 15: 0.0171 (mg/kg/d)
RCR: 0.0052
Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.
- **Worker (inhalation)**
PROC 15: 1.7731 (mg/m³)
RCR: 0.1182
Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.
- **4 - 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.
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.
For the risk assessment, the tools recommended by ECHA can be used.