

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

Printing date 28.07.2022

Version number 7.0

Revision: 28.07.2022

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:** N,N-Dimethylformamide, peptide synthesis grade**Article number:** DI1070**CAS Number:**

68-12-2

EC number:

200-679-5

Index number:

616-001-00-X

Registration number 01-2119475605-32-XXXX**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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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**

GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Repr. 1B H360D May damage the unborn child.



GHS07

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 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 for extinction: CO₂, powder or water spray.
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 Chemical characterisation: 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.

After inhalation:

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

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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 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 because it could worsen the injury if it sticks to the skin.

In the event of blisters forming on the skin, these should never be burst as this would increase 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.

In the event that the injured person wears contact lenses, they must be removed as long as they are not stuck to the eyes, otherwise additional damage could occur.

• **After swallowing:** Call a doctor immediately.

• **4.2 Most important symptoms and effects, both acute and delayed**

The main symptoms are described for 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:** Pressurized 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:**

In the work of extinction it is necessary to provide respiratory protection and full chemical protective clothing.

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 the people who perform this function.

Evacuate and restrict access.

Ensure adequate ventilation

Eliminate all sources of ignition.

• **6.2 Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

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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 item 13.
Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Store in cool, dry place in tightly closed receptacles.
Earthing/equipotential bonding of the container and receiving equipment.
Only use tools that do not produce sparks.
Take precautionary measures against electrostatic discharge.
Avoid breathing mist/vapours/spray.
Open and handle receptacle with care.
Do not eat, drink or smoke during use.
Wash hands after any manipulation.
Ensure good ventilation/exhaustion at the workplace.

7.2 Conditions for safe storage, including any incompatibilities**Storage:****Requirements to be met by storerooms and receptacles:**

No special requirements.
Store in a cool, dry, well-ventilated place.
Store only in unopened original receptacles.
Observe the product label precautions and storage information.

Information about storage in one common storage facility:

Not required.
Store away from foodstuffs.

Further information about storage conditions: Keep container tightly sealed.**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:****68-12-2 N,N-dimethylformamide**WEL Short-term value: 30 mg/m³, 10 ppmLong-term value: 15 mg/m³, 5 ppm

Sk

DNELs

DNEL worker, chronic. Systematic effects: Dermic - 1.1 mg/kg body weight
DNEL worker, chronic. 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/kg

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- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
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.
- **Protection of hands:**



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 protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - Form:** Fluid
 - Colour:** Colourless
- **Odour:** Amine-like
- **Odour threshold:** Not determined.
- **pH-value:** 7
- **Change in condition**
 - Melting point/freezing point:** -61 °C
 - Initial boiling point and boiling range:** 152.5-153.5 °C
- **Flash point:** 58 °C
- **Flammability (solid, gas):** Not applicable.

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- **Ignition temperature:** 440 °C
- **Decomposition temperature:** Not determined.
- **Auto-ignition temperature:** Not determined.
- **Explosive properties:** Not determined.
- **Explosion limits:**
 - Lower:** 2.2 Vol %
 - Upper:** 16 Vol %
- **Vapour pressure at 20 °C:** 3.7 hPa
- **Density at 20 °C:** 0.95 g/cm³
- **Relative density:** Not determined.
- **Vapour density:** Not determined.
- **Evaporation rate:** Not determined.
- **Solubility in / Miscibility with water:** Fully miscible.
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
 - Dynamic at 20 °C:** 0.802 mPas
 - Kinematic:** Not determined.
- **9.2 Other information:** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
Stable under normal conditions. If used according to the regulation no decomposition occurs.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
Heat, open flames 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 toxicological effects**
- **Acute toxicity**
Harmful in contact with skin or if inhaled.
- **LD/LC50 values relevant for classification:**

Oral	LD50	2800 mg/kg (rat)
Dermal	LD50	1500 mg/kg (rabbit)
Inhalative	LC50/4 h	12 mg/l (rat)

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- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological 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**
May damage the unborn child.
- **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:**
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
Very mobile
- **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.
- **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 be specially treated adhering to official regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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- **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** UN2265
- **ADR, IMDG, IATA**
- **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:** 3-06
- **Stowage Category** A
- **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** 3
- **Tunnel restriction code** D/E
- **UN "Model Regulation":** UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I -**
- **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
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 30, 40, 72

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- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
- **National regulations:**
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57**
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.

- **Classification according to Regulation (EC) No 1272/2008**
The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.
- **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 (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. 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.
It 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 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
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.
- **Environmental protection measures**
- **Air** No special measures required.

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- **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.
It 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**
Use in a ventilated with filtered air pressurized cabin. 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
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

To estimate exposures in the workplace has been used ECETOC TRA tool unless otherwise indicated.

• 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.