

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

Printing date 07.06.2021

Version number 2.0

Revision: 02.06.2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:** Sodium hydroxide, solution 5 mol/l (5 N)**Article number:** SO0455**Registration number**

A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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:

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

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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:**

Toxicological Information National Institute of Toxicology and Forensic Sciences: + 34 91 562 04 20. The information will be provided (24h/365 days)

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**

GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

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

GHS05

Signal word Danger

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• Hazard-determining components of labelling:

sodium hydroxide

• Hazard statements

H314 Causes severe skin burns and eye damage.

• Precautionary statements

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.

P310 Immediately call a POISON CENTER/doctor.

P321 Specific treatment (see on this label).

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:** Aqueous solution**• Dangerous components:**

CAS: 1310-73-2

sodium hydroxide

10-25%

EINECS: 215-185-5

☞ Skin Corr. 1A, H314

Reg.nr.: 01-2119457892-27-

XXXX

• 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:** Immediately remove any clothing soiled by the product.**• After inhalation:** In case of unconsciousness place patient stably in side position for transportation.**• After skin contact:** Immediately wash with water and soap and rinse thoroughly.**• After eye contact:**

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

• After swallowing: Drink plenty of water and provide fresh air. Call for a doctor immediately.**• 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, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**• 5.2 Special hazards arising from the substance or mixture**

No further relevant information available.

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- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
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**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **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:**
1310-73-2 sodium hydroxide
WEL Short-term value: 2 mg/m³
- **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.
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.

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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. 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.

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:

Odourless

Odour threshold:

Not determined.

pH-value:

Not determined.

Change in condition
Melting point/freezing point:

Undetermined.

Initial boiling point and boiling range: 100 °C

Flash point:

Not applicable.

Flammability (solid, gas):

Not applicable.

Decomposition temperature:

Not determined.

Auto-ignition temperature:

Product is not selfigniting.

Explosive properties:

Product does not present an explosion hazard.

Explosion limits:
Lower:

Not determined.

Upper:

Not determined.

Vapour pressure at 20 °C:

23 hPa

Density at 20 °C:
1.226 g/cm³
Relative density

Not determined.

Vapour density

Not determined.

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- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with water:** Fully miscible.
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **Solvent content:**
 - Water:** 80.0 %
 - Solids content:** 20.0 %
- **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** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes severe skin burns and eye damage.
- **Serious eye damage/irritation** Causes serious eye damage.
- **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** 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:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.

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Additional ecological information:
General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

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.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

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

SECTION 14: Transport information

14.1 UN-Number

ADR, IMDG, IATA

UN1824

14.2 UN proper shipping name

ADR

IMDG, IATA

1824 SODIUM HYDROXIDE SOLUTION
SODIUM HYDROXIDE SOLUTION
14.3 Transport hazard class(es)

ADR, IMDG, IATA


Class

8 Corrosive substances.

Label

8

14.4 Packing group

ADR, IMDG, IATA

II

14.5 Environmental hazards:

Marine pollutant:

No

14.6 Special precautions for user

Warning: Corrosive substances.

Hazard identification number (Kemler code):

80

EMS Number:

F-A,S-B

Segregation groups

Alkalies

Stowage Category

A

Segregation Code

SG35 Stow "separated from" SGG1-acids

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

Transport/Additional information:
ADR

Limited quantities (LQ)

1L

Transport category

2

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- **Tunnel restriction code**
- **UN "Model Regulation":**

E
UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

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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** None of the ingredients is listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
None of the ingredients is 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.

- **Relevant phrases**
H314 Causes severe skin burns and eye damage.
- **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
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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Annex: Exposure scenario 1**1 - Short title of the exposure scenario**

Exposure scenario: Sodium hydroxide

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**

ERC2 Formulation into mixture

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.

2 - Conditions of use**Duration and frequency**

5 workdays/week.

Emission days (days/year): 200

Physical parameters**Physical state** Solid**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**

Avoid contact with eyes.

Avoid contact with the skin.

Risk management measures

The aim is to prevent the passage of NaOH solutions to municipal wastewater or to surface water . If such discharges are expected to cause significant changes in pH , it is required to regularly monitor the pH during introduction into open water . Overall discharges are made so that the pH variations are minimized on the surface of the receiving waters.

Most aquatic organisms can tolerate pH values of 6 to 9. This is also reflected in the description of standard OECD tests with aquatic organisms.

Worker protection**Organisational protective measures**

Provide Internal Plant Instruction.

Handling procedures must be well documented.

Ensure that activities are executed by specialists or authorised personnel only.

Workers processes / areas identified risk should be trained to :

a) Avoid working without respiratory protection

b) To understand the corrosive properties of the substance with they work

c) Observe the safest procedures indicated by the employer

The employer must also ensure that the required personal protective equipment is available and it is used as directed.

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

Replace, if possible, manual processes by automated processes and / or closed. This would avoid irritating mists, sprays and splashes.

Store in cool, dry place in tightly closed receptacles.

Only handle and refill product in closed systems.

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The work process has to be performed under closed conditions.

Put lid on container immediately after use.

Use closeable conveyance devices.

Using forceps, claws with long handles in the hand to avoid direct contact and exposure by splashes.

Ensure good ventilation/exhaustion at the workplace.

• **Personal protective measures**

Do not inhale dust / smoke / mist.

Avoid contact with the skin.

Avoid contact with the eyes.

Tightly sealed goggles

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

Recommended material for gloves :

- Butyl rubber , PVC , polychloroprene with natural latex liner , material thickness: 0,5 mm , breakthrough time: >480min.

- Nitrile rubber , fluoro rubber , material thickness: 0,35-0,4mm , breakthrough time: >480min.

Respiratory protection: In case of dust or aerosol formation (eg by spraying) use respiratory protection with approved filter (P2).

Use protective suit.

Apron

Rubber boots or plastic.

• **Measures for consumer protection** Ensure adequate labelling.

• **Environmental protection measures**

The risk assessment for the environment is only applicable to the aquatic environment, when applicable, including treatment plants, wastewater (STP) / plants wastewater treatment plant (WWTP) , as emissions of NaOH in different life cycle stages (production and use) mainly apply to water (waste).

• **Air**

No special measures required.

No major air emissions are expected due to the very low vapor pressure of NaOH.

• **Water**

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

Risk assessment and aquatic effect only deal with the effect on ecosystems / organisms due to possible pH changes related downloads OH-, as it is expected that the toxicity of Na + ions is insignificant compared to the effect (potential) pH .

Only the local scale will be treated, including sewage treatment plant STP or, where applicable, both for production and for industrial use. Any effect that may arise would be expected to take place in a local.

The high water solubility and very low vapor pressure indicate that NaOH is predominant in water.

The exposure assessment for the aquatic environment will only deal with the possible pH changes in STP effluent and surface water related to the OH- released locally.

• **Soil**

No special measures required.

No significant emissions to the terrestrial environment are expected.

The sludge application route is not relevant to the issue to agricultural land , because there will be no sorption of NaOH to particulate STP / WWTP.

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• Disposal measures

Disposal must be made according to official regulations.
Ensure that waste is collected and contained.

• Waste type

Liquid product residues
Aqueous solution
Partially emptied and uncleaned packaging

• 3 - Exposure estimation

- Worker (oral)** No significant oral exposure
- Worker (dermal)** No significant dermal exposure
- Worker (inhalation)**

PROC 15: < 1 (mg/m³)

RCR: <1

• 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**
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- **Product category** PC21 Laboratory chemicals
- **Process category** PROC15 Use as laboratory reagent
- **Environmental release category**
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC9b Widespread use of functional fluid (outdoor)
- **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.
Emission days (days/year): 200
- **Physical parameters**
- **Physical state** Solid
- **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**
Avoid contact with eyes.
Avoid contact with the skin.
- **Risk management measures**
The aim is to prevent the passage of NaOH solutions to municipal wastewater or to surface water .
If such discharges are expected to cause significant changes in pH , it is required to regularly monitor the pH during introduction into open water . Overall downloads are made so that the pH variations are minimized on the surface of the receiving waters.

Most aquatic organisms can tolerate pH values of 6 to 9. This is also reflected in the description of standard OECD tests with aquatic organisms.
- **Worker protection**
- **Organisational protective measures**
Provide Internal Plant Instruction.
Handling procedures must be well documented.
Ensure that activities are executed by specialists or authorised personnel only.
Workers processes / areas identified risk should be trained to :
a) Avoid working without respiratory protection
b) To understand the corrosive properties of the substance with they work
c) Observe the safest procedures indicated by the employer
The employer must also ensure that the required personal protective equipment is available and it is used as directed.
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
Replace, if possible, manual processes by automated processes and / or closed. This would avoid irritating mists, sprays and splashes.
Store in cool, dry place in tightly closed receptacles.
Only handle and refill product in closed systems.
The work process has to be performed under closed conditions.

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Put lid on container immediately after use.

Use closeable conveyance devices.

Using forceps, claws with long handles in the hand to avoid direct contact and exposure by splashes.

Ensure good ventilation/exhaustion at the workplace.

• **Personal protective measures**

Do not inhale dust / smoke / mist.

Avoid contact with the skin.

Avoid contact with the eyes.

Tightly sealed goggles

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

Recommended material for gloves :

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Respiratory protection: In case of dust or aerosol formation (eg by spraying) use respiratory protection with approved filter (P2).

Use protective suit.

Apron

Rubber boots or plastic.

• **Measures for consumer protection** Ensure adequate labelling.

• **Environmental protection measures**

The risk assessment for the environment is only applicable to the aquatic environment, when applicable, including treatment plants, wastewater (STP) / plants wastewater treatment plant (WWTP) , as emissions of NaOH in different life cycle stages (production and use) mainly apply to water (waste).

• **Air**

No special measures required.

No major air emissions are expected due to the very low vapor pressure of NaOH.

• **Water**

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

Risk assessment and aquatic effect only deal with the effect on ecosystems / organisms due to possible pH changes related downloads OH-, as it is expected that the toxicity of Na + ions is insignificant compared to the effect (potential) pH .

Only the local scale will be treated, including sewage treatment plant STP or, where applicable, both for production and for industrial use. Any effect that may arise would be expected to take place in a local.

The high water solubility and very low vapor pressure indicate that NaOH is predominant in water. The exposure assessment for the aquatic environment will only deal with the possible pH changes in STP effluent and surface water related to the OH- released locally.

• **Soil**

No special measures required.

No significant emissions to the terrestrial environment are expected.

The sludge application route is not relevant to the issue to agricultural land , because there will be no sorption of NaOH to particulate STP / WWTP.

• **Disposal measures**

Disposal must be made according to official regulations.

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Ensure that waste is collected and contained.

Waste type

Liquid product residues

Aqueous solution

Partially emptied and uncleaned packaging

3 - Exposure estimation

Worker (oral) No significant oral exposure

Worker (dermal) No significant dermal exposure

Worker (inhalation)

PROC 15: < 1 (mg/m³)

RCR: <1

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.