

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

Printing date 05.07.2019

Version number 24

Revision: 05.07.2019

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

- **1.1 Product identifier**
- **Molecular formula:** H₂ O₄ S
- **Structure formula:** H₂ S O₄
- **Trade name:** Sulphuric acid 90%-98%
- **MSDS number:** CH0015

- **EC number:**
231-639-5
- **Index number:**
016-020-00-8
- **Registration number** 01-2119458838-20
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
Only for the use of professionals users
- **Life cycle stages**
IS Use at industrial Sites
F Formulation or re-packing
- **Sector of Use**
SU9 Manufacture of fine chemicals
SU24 Scientific research and development
- **Product category**
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
PC21 Laboratory chemicals
PC29 Pharmaceuticals
PC40 Extraction agents
- **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC15 Use as laboratory reagent
- **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
- **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

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SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS05 corrosion

- Met. Corr. 1 H290 May be corrosive to metals.
- 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 substance is classified and labelled according to the CLP regulation.
- Hazard pictograms



GHS05

- Signal word Danger
- Hazard statements
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
- Precautionary statements
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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.
P310 Immediately call a POISON CENTER/doctor.
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
Sulphuric acid 90%-98%
- Identification number(s)
- EC number: 231-639-5
- Index number: 016-020-00-8

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SECTION 4: First aid measures

• **4.1 Description of first aid measures**

• **General information:**

Remove immediately any clothing soiled by the product and wash with plenty of water. The rescuer has to be equipped with individual protection

• **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

• **After skin contact:**

Treat affected skin with cotton wool or cellulose. Then wash and rinse thoroughly with water and a mild cleaning agent.

Immediately wash with water and soap and rinse thoroughly. Wash contaminated clothing before reuse.

• **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.

Rinse out mouth and then drink plenty of water.

• **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

• **Information for doctor:** Show the doctor this Material Safety Data Sheet.

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

No further relevant information available.

SECTION 5: Firefighting measures

• **General Information:**

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

• **5.1 Extinguishing media**

• **Suitable extinguishing agents:**

CO₂, sand, extinguishing powder. Do not use water.

Use fire extinguishing methods suitable to surrounding conditions.

• **5.2 Special hazards arising from the substance or mixture** Sulfur Oxides (SO_x)

• **5.3 Advice for firefighters**

• **Protective equipment:** Do not inhale gases in case of fire or combustion.

• **Additional information** Keep receptacles cool with water spray.

SECTION 6: Accidental release measures

• **General Information:** Use proper personal protective equipment as indicated in Section 8.

• **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

• **6.2 Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water after collecting the liquid.

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

• **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.

Use neutralising agent.

Dispose contaminated material as waste according to item 13.

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- **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** When diluting always pour product into water and not vice versa.
- **Information about fire - and explosion protection:** The product is not flammable.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Provide acid-resistant floor.
Provide floor trough without outlet.
Use only receptacles specifically permitted for this substance/product.
- **Information about storage in one common storage facility:**
Do not store together with alkalis (caustic solutions).
- **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters

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

Sulphuric acid 90%-98%

WEL	Long-term value: 0.05* mg/m ³ *mist: defined as thoracic fraction
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· DNELs

Inhalative	DNEL (workers-local effects Acute)	0.1 mg/m ³
	DNEL (workers-local chronic effects)	0.05 mg/m ³

· PNECs

PNEC (Fresh water)	2.5 mg/l
PNEC (Freshwater sediment)	0.002 mg/kg
PNEC (Marine water)	0.25 mg/l
PNEC (Seawater sediment)	0.002 mg/l

- **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.
- 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:

- The selected respiratory protection must comply with standard EN 136/140/143/145/149.
- **Recommended filter device for short term use:** Combination filter E-P2

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Protection of hands:

The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.

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



Protective gloves

Rubber gloves

Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.

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.

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.5 mm

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:

Fluorocarbon rubber (Viton)

Recommended thickness of the material: ≥ 0.4 mm

Not suitable are gloves made of the following materials:

Natural rubber, NR

Chloroprene rubber, CR

Nitrile rubber, NBR

PVC gloves

Eye protection:


Tightly sealed goggles

Body protection:

Protective work clothing

Acid resistant protective clothing

Use protective suit.

Apron

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

98.07 g

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<ul style="list-style-type: none"> · Appearance: Form: Fluid Colour: Colourless · Odour: Pungent · Odour threshold: Not determined.
<ul style="list-style-type: none"> · pH-value: <1
<ul style="list-style-type: none"> · Change in condition Melting point/freezing point: -10 °C Initial boiling point and boiling range: 295-315 °C · Flash point: Not applicable. · Flammability (solid, gas): Not applicable. · Decomposition temperature: Not determined. · Auto-ignition temperature: Not determined. · Explosive properties: Product does not present an explosion hazard. · Explosion limits: Lower: Not determined. Upper: Not determined. · Vapour pressure at 20 °C: <0.0001 hPa · Vapour pressure (2) at 55 °C: 0.01 hPa · Density at 20 °C: 1.84 g/cm³
<ul style="list-style-type: none"> · Bulk density: 1,841 kg/m³ · Relative density: Not determined. · Vapour density: Not determined. · Evaporation rate: Not determined. · Solubility in / Miscibility with water: Fully miscible. · organic solvents: Miscible with many organic solvents.
<ul style="list-style-type: none"> · Partition coefficient: n-octanol/water: -2,19997 · Viscosity: Dynamic at 20 °C: 23 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:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
 Reacts with various metals.
 Corrosive action on metals.
 When diluting, always add acid to water, never vice versa.
 Reacts violently with water.
 Reacts dangerously with alkali (lyes) or amines in bulk.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Metals
- **10.6 Hazardous decomposition products:** In case of fire: Sulfur oxides (SO_x)

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SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
 - **Acute toxicity** Based on available data, the classification criteria are not met.
 - **LD/LC50 values relevant for classification:**
- | | | |
|------|------|-------------------|
| Oral | LD50 | 2,140 mg/kg (rat) |
|------|------|-------------------|
- **Primary irritant effect:**
 - **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
 - **Serious eye damage/irritation**
Causes serious eye damage.
 - **Ingestion:** It can be harmful if swallowed.
 - **Inhalation:**
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
 - **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
 - **Other information (about experimental toxicology):** No further relevant information available.
 - **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:**
- | | |
|----------|--------------------------------|
| EC50/48h | >100 mg/l (Daphnia) (OECD 202) |
| LC50/96h | 16 mg/l (fishes) |
| LC50 | >100 mg/l (algae) (72h) |
- **12.2 Persistence and degradability** No further relevant information available.
 - **Method**
 - **Ecological information** Not available
 - **12.3 Bioaccumulative potential** No further relevant information available.
 - **12.4 Mobility in soil** No further relevant information available.
 - **Ecotoxicological effects:**
 - **Remark:** Local effects: may change the environmental pH endangering the aquatic life.
 - **Additional ecological information:**
 - **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): 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.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
 - **12.5 Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

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 · **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.

 · **Waste disposal key:**

The European Union does not establish uniform rules for the disposal of chemical waste, which are special waste. Their treatment and elimination of the domestic legislation of each country. So, in each case, you should contact the relevant authorities, or those companies legally authorized for elimination of waste. 2014/955/UE: Council Decision of 18 December 2014 amending the list of wastes contained in Decision 2000/532/EC.

Council Directive 91/156/EEC of 18 March 1991 amending Directive 75/442/EEC on waste.

 · **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.

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

Decompose with care.

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

SECTION 14: Transport information

 · **14.1 UN-Number**

 · **ADR/RID, IMDG, IATA**

UN1830

 · **14.2 UN proper shipping name**

 · **ADR/RID**

1830 SULPHURIC ACID

 · **IMDG, IATA**

SULPHURIC ACID

 · **14.3 Transport hazard class(es)**

 · **ADR/RID**

 · **Class**

8 (C1) Corrosive substances.

 · **Label**

8

 · **IMDG, IATA**

 · **Class**

8 Corrosive substances.

 · **Label**

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<ul style="list-style-type: none"> · 14.4 Packing group · ADR/RID, IMDG, IATA 	II
<ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: 	No
<ul style="list-style-type: none"> · 14.6 Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups · Stowage Category · Stowage Code · Segregation Code 	Warning: Corrosive substances. 80 F-A,S-B Strong acids C SW15 For metal drums, stowage category B. SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides
<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code 	Not applicable.
· Transport/Additional information: _____	
<ul style="list-style-type: none"> · ADR/RID · Excepted quantities (EQ): · Limited quantities (LQ) · Excepted quantities (EQ) 	E2 1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> · Transport category · Tunnel restriction code 	2 E
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> · UN "Model Regulation": 	UN 1830 SULPHURIC ACID, 8, II

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 Substance is not listed.
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- National regulations:
- Information about limitation of use: -
- Water hazard class: Water hazard class 1 (Assessment by list): slightly hazardous for water.
- 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**

ECDDIN (Environmental Chem. Data and Information Network)
IUCLID (International Uniform Chemical Information Database)
NIOSH - Registry of Toxic Effects of Chemical Substances
Roth - Wassergefährdende Stoffe
Verschuieren - 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 européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EDNCS: 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
vPvB: very Persistent and very Bioaccumulative
Met. Corr. 1: Corrosive to metals – Category 1
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

• **Sources**

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH, in latest valid version.
Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.
Globally Harmonized System, GHS
ADR2019

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

The sections where alterations took place are marked with an asterisk in the left border.

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Annex: Exposure scenario 1

- **Short title of the exposure scenario** Substance manufacturing
- **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
- **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.
 According to directions for use.
- **Duration and frequency** 8hrs (full working shift).
- **Worker** 8hrs (full working shift).
- **Environment**
 The product may not be released into the aquatic environment without pre-treatment (biological purification plant).
- **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** The substance is main component.
- **Used amount per time or activity** 1200000 tons per year
- **Other operational conditions** Observe the general safety regulations when handling chemicals.
- **Other operational conditions affecting environmental exposure**
 No special measures required.
 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.
- **Other operational conditions affecting consumer exposure during the use of the product** Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
 Keep good industrial hygiene.
 Ensure that activities are executed by specialists or authorised personnel only.
- **Technical protective measures**
 Only handle and refill product in closed systems or under local exhaust.
 Ensure good ventilation/exhaustion at the workplace.
- **Personal protective measures**
 Avoid contact with the skin.
 Avoid contact with the eyes.
 Protective work clothing
 Acid resistant protective clothing
 Use protective suit.
 Apron

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Tightly sealed goggles

The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.

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

Protective gloves

Rubber gloves

Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.

Tightly sealed goggles

• **Environmental protection measures**

• **Water**

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

• **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 waste is collected and contained.

Ensure that all wastewater is collected and treated in a wastewater treatment plant.

• **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**

• **Environment** *The highest environmental exposure to be expected for surface waters is 0 mg / L.*

• **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** PROC15 Use as laboratory reagent
- **Environmental release category**
 ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
 ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
- **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.
 According to directions for use.
- **Duration and frequency** 8hrs (full working shift).
- **Worker** 8hrs (full working shift).
- **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** 5000 tons per year
- **Other operational conditions** Observe the general safety regulations when handling chemicals.
- **Other operational conditions affecting environmental exposure**
 No special measures required.
 Observe section 6 of the Safety Data Sheet (Accidental release measures).
- **Other operational conditions affecting worker exposure**
 Avoid direct contact with the chemical /product /preparation by organisational measures.
 Avoid contact with eyes.
 Avoid contact with the skin.
- **Other operational conditions affecting consumer exposure during the use of the product** Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
 Ensure that activities are executed by specialists or authorised personnel only.
 Keep good industrial hygiene.
- **Technical protective measures** When diluting always pour product into water and not vice versa.
- **Personal protective measures**
 Avoid contact with the skin.
 Avoid contact with the eyes.
 Tightly sealed goggles
 The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.
 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.
 Protective work clothing
 In case of pouring big amounts or disconnecting pipes.
 Apron
 Tightly sealed goggles

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· **Environmental protection measures**

· **Water**

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

· **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

· **Exposure estimation**

· **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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DOMINIQUE DUTSCHER SAS

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

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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**
 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
 PROC5 Mixing or blending in batch processes
 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
- **Environmental release category** 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.
- **Conditions of use**
 Customary application according to section 1.
 According to directions for use.
- **Duration and frequency** 8hrs (full working shift).
- **Worker** 8hrs (full working shift).
- **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** 300000 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.
- **Other operational conditions affecting consumer exposure during the use of the product** Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
 Ensure that activities are executed by specialists or authorised personnel only.
 Keep good industrial hygiene.
- **Technical protective measures** No special measures required.
- **Personal protective measures**
 Avoid contact with the skin.
 Avoid contact with the eyes.
 Tightly sealed goggles
 The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.
 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.

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

Printing date 05.07.2019

Version number 24

Revision: 05.07.2019

Trade name: Sulphuric acid 90%-98%

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Protective work clothing

In case of pouring big amounts or disconnecting pipes.

Apron

Tightly sealed goggles

· **Environmental protection measures**

· **Water**

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

· **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*

· **Exposure estimation**

· **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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