


PeliKine compact human IL-1 beta kit (M1934)

Kit cover sheet

Date of compilation: 2021-06-07

Composition/information on ingredients

Hazardous components (including safety data sheet)

| Components | Classification acc. to GHS | Pictograms | Page |
|------------|----------------------------|---|--------|
| HPE buffer | Eye Irrit. 2 / H319 |  | 2 – 12 |

Non hazardous components (no safety data sheet attached)

| Components |
|---------------------------------|
| Coating antibody |
| Blocking reagent |
| Biotinylated antibody |
| streptavidin-poly-HRP conjugate |
| IL-1 beta standard |

HPE buffer

Version number: 1.0

Date of compilation: 2021-06-03

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

1.1 Product identifier

| | |
|----------------|-------------------|
| Trade name | HPE buffer |
| Article number | M1940, M9161 |

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

| | |
|--------------------------|---|
| Relevant identified uses | For research use only |
| Uses advised against | Not suitable for in vitro diagnostic use. |

1.3 Details of the supplier of the safety data sheet

Sanquin
Plesmanlaan 125
1066 CX Amsterdam
Netherlands

Telephone: +31 20 512 3599
e-mail: reagents@sanquin.nl
Website: www.sanquin.org/reagents

e-mail (competent person)

CSVAM@sanquin.nl

1.4 Emergency telephone number

Emergency information service

+31 20 512 3599
This number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM, (CET)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class | Category | Hazard class and category | Hazard statement |
|---------|-----------------------------------|----------|---------------------------|------------------|
| 3.3 | serious eye damage/eye irritation | 2 | Eye Irrit. 2 | H319 |

For full text of abbreviations: see SECTION 16.

2.2 Label elements

Labelling

- signal word Warning

- pictograms

GHS07



- hazard statements

H319 Causes serious eye irritation.

- precautionary statements

P280 Wear eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

2.3 Other hazards

Of no significance.

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Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.


SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

The product does not contain any other ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

| Name of substance | Identifier | Wt% | Classification acc. to GHS | Pictograms | Notes |
|--|-------------------|-----------|---|---|-------|
| tetrasodium ethylene-diaminetetraacetate | CAS No 64-02-8 | 1 – < 2.5 | Acute Tox. 4 / H302 Acute Tox. 4 / H332 Eye Dam. 1 / H318 STOT RE 2 / H373 |  | |

Remarks

For full text of H-phrases: see SECTION 16. All the percentages given are percentages by weight unless stated otherwise.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician.

Following skin contact

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor.

Following ingestion

Rinse mouth with water (only if the person is conscious). Call a POISON CENTER or doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

For specialist advice physicians should contact the poison centre.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry extinguishing powder; Carbon dioxide (CO₂);
Co-ordinate firefighting measures to the fire surroundings

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

During fire hazardous fumes/smoke could be produced.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (SCBA). Standard protective clothing for firefighters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Use personal protective equipment as required.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation
Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingsuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- flammability hazards
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- incompatible substances or mixtures
Keep away from alkalis, oxidising substances, acids.

Control of effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight. Frost.

Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

7.3 Specific end use(s)

There is no additional information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

No information available. Countries not listed may have their own country specific values.

Relevant DNELs/DMELs/PNECs and other threshold levels

| Relevant DNELs of components of the mixture | | | | | | |
|---|---------|-----------|-----------------------|------------------------------------|-------------------------------|----------------------------|
| Name of substance | CAS No | End-point | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| tetrasodium ethylene-diaminetetraacetate | 64-02-8 | DNEL | 1.5 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects |
| tetrasodium ethylene-diaminetetraacetate | 64-02-8 | DNEL | 3 mg/m ³ | human, inhalatory | worker (industry) | acute - local effects |
| tetrasodium ethylene-diaminetetraacetate | 64-02-8 | DNEL | 0.6 mg/m ³ | human, inhalatory | consumer (private households) | chronic - local effects |
| tetrasodium ethylene-diaminetetraacetate | 64-02-8 | DNEL | 1.2 mg/m ³ | human, inhalatory | consumer (private households) | acute - local effects |
| tetrasodium ethylene-diaminetetraacetate | 64-02-8 | DNEL | 25 mg/kg bw/day | human, oral | consumer (private households) | chronic - systemic effects |

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| Relevant PNECs of components of the mixture | | | | | | |
|---|---------|-----------|-----------------|-----------------------|------------------------------|------------------------------|
| Name of substance | CAS No | End-point | Threshold level | Organism | Environmental compartment | Exposure time |
| tetrasodium ethylene-diaminetetraacetate | 64-02-8 | PNEC | 2.2 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| tetrasodium ethylene-diaminetetraacetate | 64-02-8 | PNEC | 0.22 mg/l | aquatic organisms | marine water | short-term (single instance) |
| tetrasodium ethylene-diaminetetraacetate | 64-02-8 | PNEC | 43 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| tetrasodium ethylene-diaminetetraacetate | 64-02-8 | PNEC | 0.72 mg/kg | terrestrial organisms | soil | short-term (single instance) |

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection

Skin protection

Chemical protective clothing.

- hand protection



Wear suitable gloves. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these 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.

- type of material

PVC: polyvinyl chloride, CR: chloroprene (chlorobutadiene) rubber, Nitrile rubber

- material thickness

Use gloves with a minimum material thickness: $\geq 0,38$ mm.

- breakthrough times of the glove material

Use gloves with a minimum breakthrough times of the glove material: >480 minutes (permeation: level 6).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Provide eyewash stations and safety showers at the workplace.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Type: ABEK-P2 (combined filters against gases, vapours and particles, colour code: Brown/Grey/Yellow/Green/White).

Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | liquid |
| Colour | light yellow |
| Odour | characteristic |
| Melting point/freezing point | not determined |
| Boiling point or initial boiling point and boiling range | 100 °C calculated value, referring to a component of the mixture |
| Flammability | this material is combustible, but will not ignite readily |
| Lower and upper explosion limit | LEL: UEL: not determined |
| Flash point | not determined not applicable |
| Auto-ignition temperature | not determined |
| Decomposition temperature | no data available |
| pH (value) | 8 |
| Kinematic viscosity | not determined |
| Solubility(ies) | not determined |

| | |
|---|-----------------------------------|
| Partition coefficient n-octanol/water (log value) | this information is not available |
|---|-----------------------------------|

| | |
|-----------------|--|
| Vapour pressure | 0 Pa at 20 °C calculated value, referring to a component of the mixture |
|-----------------|--|

| | |
|-------------------------|-----------------------------------|
| Density | not determined |
| Relative vapour density | this information is not available |

| | |
|--------------------------|-----------------------|
| Particle characteristics | not relevant (liquid) |
|--------------------------|-----------------------|

9.2 Other information

There is no additional information.

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| | |
|--|---|
| Information with regard to physical hazard classes | hazard classes acc. to GHS (physical hazards): not relevant |
| Other safety characteristics | there is no additional information |

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidisers.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

- acute toxicity of components of the mixture

| Acute toxicity estimate (ATE) of components of the mixture | | | |
|--|---------|-----------------------|-------------|
| Name of substance | CAS No | Exposure route | ATE |
| tetrasodium ethylenediaminetetraacetate | 64-02-8 | oral | 1,913 mg/kg |
| tetrasodium ethylenediaminetetraacetate | 64-02-8 | inhalation: dust/mist | 1.5 mg/l/4h |

| Acute toxicity of components of the mixture | | | | | |
|---|---------|----------------|----------|-------------|---------|
| Name of substance | CAS No | Exposure route | Endpoint | Value | Species |
| tetrasodium ethylenediaminetetraacetate | 64-02-8 | oral | LD50 | 1,913 mg/kg | rat |

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

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Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

| Aquatic toxicity (acute) of components of the mixture | | | | | |
|---|---------|----------|----------|-----------------------|---------------|
| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
| tetrasodium ethylenediaminetetraacetate | 64-02-8 | LC50 | 41 mg/l | fish | 96 h |
| tetrasodium ethylenediaminetetraacetate | 64-02-8 | EC50 | 140 mg/l | aquatic invertebrates | 48 h |

| Aquatic toxicity (chronic) of components of the mixture | | | | | |
|---|---------|-------------------|------------|-----------------------|---------------|
| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
| tetrasodium ethylenediaminetetraacetate | 64-02-8 | NOEC | ≥25.7 mg/l | fish | 35 d |
| tetrasodium ethylenediaminetetraacetate | 64-02-8 | LOEC | 50 mg/l | aquatic invertebrates | 21 d |
| tetrasodium ethylenediaminetetraacetate | 64-02-8 | growth (EbCx) 20% | >500 mg/l | microorganisms | 30 min |

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

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12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packagings

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

- | | |
|--|---|
| 14.1 UN number | not subject to transport regulations |
| 14.2 UN proper shipping name | not relevant |
| 14.3 Transport hazard class(es) | not assigned |
| 14.4 Packing group | not assigned |
| 14.5 Environmental hazards | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 Special precautions for user | There is no additional information. |
| 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code | No data available. |

Information for each of the UN Model Regulations

Transport information - national regulations - additional information (UN RTDG)

Not subject to transport regulations: UN RTDG

International Maritime Dangerous Goods Code (IMDG) - additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Not subject to ICAO-IATA.

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

There is no additional information.

National regulations (Australia)

Australian Inventory of Chemical Substances (AICS)

All ingredients are listed or exempt from listing.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Revision

Date of compilation: 2021-06-03. Version number: 1.0. Date format: (YYYY-MM-DD).

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|------------|--|
| Acute Tox. | Acute toxicity |
| ATE | Acute Toxicity Estimate |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DMEL | Derived Minimal Effect Level |
| DNEL | Derived No-Effect Level |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| Eye Dam. | Seriously damaging to the eye |
| Eye Irrit. | Irritant to the eye |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| LD50 | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval |
| LEL | Lower explosion limit (LEL) |
| LOEC | Lowest Observed Effect Concentration |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") |
| NOEC | No Observed Effect Concentration |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |

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| Abbr. | Descriptions of used abbreviations |
|---------|---|
| STOT RE | Specific target organ toxicity - repeated exposure |
| UEL | Upper explosion limit (UEL) |
| UN RTDG | UN Recommendations on the Transport of Dangerous Good |
| vPvB | Very Persistent and very Bioaccumulative |

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

| Code | Text |
|------|--|
| H302 | Harmful if swallowed. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

PeliKine tool set 1 (M1980)

Kit cover sheet

Date of compilation: 2021-06-07

Composition/information on ingredients

Hazardous components (including safety data sheet)

| Components | Classification acc. to GHS | Pictograms | Page |
|---------------|----------------------------|------------|--------|
| Stop solution | | | 2 – 12 |

Non hazardous components (no safety data sheet attached)

| Components |
|-------------------------|
| Coating buffer capsules |
| PBS tablets |
| Washing buffer |
| TMB substrate solution |

Stop solution

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

1.1 Product identifier

Trade name

Stop solution

Article number

M198005

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

Relevant identified uses

For research use only

Uses advised against

Not suitable for in vitro diagnostic use.

1.3 Details of the supplier of the safety data sheet

Sanquin
Plesmanlaan 125
1066 CX Amsterdam
Netherlands

Telephone: +31 20 512 3599
e-mail: reagents@sanquin.nl
Website: www.sanquin.org/reagents

e-mail (competent person)

CSVAM@sanquin.nl

1.4 Emergency telephone number

Emergency information service

+31 20 512 3599
This number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM, (CET)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

This mixture does not meet the criteria for classification.

2.2 Label elements

Labelling

Not required.

2.3 Other hazards

Of no significance.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)



3.2 Mixtures

The product does not contain any ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

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| Name of substance | Identifier | Wt% | Classification acc. to GHS | Pictograms | Notes |
|----------------------|---------------------|-----------|--|---|-----------------------------------|
| sulphuric acid ... % | CAS No 7664-93-9 | 1 – < 2.5 | Acute Tox. 3 / H331 Skin Corr. 1A / H314 Eye Dam. 1 / H318 |   | B(a) IARC: 1 RoC "Known" |

Notes

B(a): The classification refers to an aqueous solution
 IARC: 1: IARC group 1: carcinogenic to humans (International Agency for Research on Cancer)
 RoC NTP-RoC: Known To Be A Human Carcinogen
 "Known":

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician.

Following skin contact

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth with water (only if the person is conscious). Call a POISON CENTER or doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry extinguishing powder; Carbon dioxide (CO₂);
 Co-ordinate firefighting measures to the fire surroundings

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

During fire hazardous fumes/smoke could be produced.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Stop solution

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Special protective equipment for firefighters

Self-contained breathing apparatus (SCBA). Standard protective clothing for firefighters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Use personal protective equipment as required.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

- handling of incompatible substances or mixtures

- keep away from

Caustic solutions

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- incompatible substances or mixtures

Keep away from alkalis, oxidising substances, acids.

Control of effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight. Frost.

Stop solution

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Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

7.3 Specific end use(s)

There is no additional information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Countries not listed may have their own country specific values.

| Occupational exposure limit values (Workplace Exposure Limits) | | | | | | | | | |
|--|---------------|-----------|------------|-----------|--------------------------|------------|---------------------------|----------|--------|
| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m ³] | STEL [ppm] | STEL [mg/m ³] | Notation | Source |
| AU | sulfuric acid | 7664-93-9 | WES | | 1 | | 3 | | WES |

Notation

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs/DMELs/PNECs and other threshold levels

| Relevant DNELs of components of the mixture | | | | | | |
|---|-----------|-----------|------------------------|------------------------------------|-------------------|-------------------------|
| Name of substance | CAS No | End-point | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| sulphuric acid ... % | 7664-93-9 | DNEL | 0.05 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects |
| sulphuric acid ... % | 7664-93-9 | DNEL | 0.1 mg/m ³ | human, inhalatory | worker (industry) | acute - local effects |

| Relevant PNECs of components of the mixture | | | | | | |
|---|-----------|-----------|-----------------|-------------------|------------------------------|------------------------------|
| Name of substance | CAS No | End-point | Threshold level | Organism | Environmental compartment | Exposure time |
| sulphuric acid ... % | 7664-93-9 | PNEC | 0.003 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| sulphuric acid ... % | 7664-93-9 | PNEC | 0 mg/l | aquatic organisms | marine water | short-term (single instance) |
| sulphuric acid ... % | 7664-93-9 | PNEC | 8.8 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| sulphuric acid ... % | 7664-93-9 | PNEC | 0.002 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| sulphuric acid ... % | 7664-93-9 | PNEC | 0.002 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

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Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection

Skin protection

Chemical protective clothing.

- hand protection



Wear suitable gloves. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these 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.

- type of material

PVC: polyvinyl chloride, CR: chloroprene (chlorobutadiene) rubber, Nitrile rubber

- material thickness

Use gloves with a minimum material thickness: $\geq 0,38$ mm.

- breakthrough times of the glove material

Use gloves with a minimum breakthrough times of the glove material: >480 minutes (permeation: level 6).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Provide eyewash stations and safety showers at the workplace.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Type: ABEK-P2 (combined filters against gases, vapours and particles, colour code: Brown/Grey/Yellow/Green/White).

Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | liquid |
| Colour | colourless |
| Odour | characteristic |
| Melting point/freezing point | not determined |
| Boiling point or initial boiling point and boiling range | 100 °C calculated value, referring to a component of the mixture |
| Flammability | non-combustible |
| Lower and upper explosion limit | LEL: UEL: not relevant |
| Flash point | not applicable |
| Auto-ignition temperature | not relevant |

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| | |
|---------------------------|-------------------|
| Decomposition temperature | no data available |
| pH (value) | 1.2 (acid) |
| Kinematic viscosity | not determined |
| Solubility(ies) | not determined |

| | |
|---|-----------------------------------|
| Partition coefficient n-octanol/water (log value) | this information is not available |
|---|-----------------------------------|

| | |
|-----------------|----------------|
| Vapour pressure | not determined |
|-----------------|----------------|

| | |
|-------------------------|-----------------------------------|
| Density | 1.01 g/cm ³ at 20 °C |
| Relative vapour density | 1 (water = 1) |
| Relative density | this information is not available |

| | |
|--------------------------|-----------------------|
| Particle characteristics | not relevant (liquid) |
|--------------------------|-----------------------|

9.2 Other information

There is no additional information.

| | |
|--|---|
| Information with regard to physical hazard classes | hazard classes acc. to GHS (physical hazards): not relevant |
| Other safety characteristics | there is no additional information |

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidisers.

Release of flammable materials with:

Light metals (due to the release of hydrogen in an acid/alkaline medium)

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to GHS

This mixture does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic.

- acute toxicity of components of the mixture

| Acute toxicity estimate (ATE) of components of the mixture | | | |
|--|-----------|-----------------------|--------------|
| Name of substance | CAS No | Exposure route | ATE |
| sulphuric acid ... % | 7664-93-9 | inhalation: vapour | 3 mg/l/4h |
| sulphuric acid ... % | 7664-93-9 | inhalation: dust/mist | 0.85 mg/l/4h |

| Acute toxicity of components of the mixture | | | | | |
|---|-----------|----------------|----------|-------------|---------|
| Name of substance | CAS No | Exposure route | Endpoint | Value | Species |
| sulphuric acid ... % | 7664-93-9 | oral | LD50 | 2,140 mg/kg | rat |

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

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SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

| Aquatic toxicity (acute) of components of the mixture | | | | | |
|---|-----------|----------|-----------|-----------------------|---------------|
| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
| sulphuric acid ... % | 7664-93-9 | EC50 | >100 mg/l | aquatic invertebrates | 48 h |
| sulphuric acid ... % | 7664-93-9 | ErC50 | >100 mg/l | algae | 72 h |

| Aquatic toxicity (chronic) of components of the mixture | | | | | |
|---|-----------|----------|------------|---------|---------------|
| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
| sulphuric acid ... % | 7664-93-9 | NOEC | 0.025 mg/l | fish | 65 d |

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packagings

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

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SECTION 14: Transport information

- | | |
|--|---|
| 14.1 UN number | not subject to transport regulations |
| 14.2 UN proper shipping name | not relevant |
| 14.3 Transport hazard class(es) | not assigned |
| 14.4 Packing group | not assigned |
| 14.5 Environmental hazards | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 Special precautions for user There is no additional information. | |
| 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code No data available. | |

Information for each of the UN Model Regulations

Transport information - national regulations - additional information (UN RTDG)

Not subject to transport regulations: UN RTDG

International Maritime Dangerous Goods Code (IMDG) - additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
There is no additional information.
- National regulations (Australia)**
Australian Inventory of Chemical Substances (AICS)
All ingredients are listed or exempt from listing.
- 15.2 Chemical Safety Assessment**
No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

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Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|------------|--|
| Acute Tox. | Acute toxicity |
| ATE | Acute Toxicity Estimate |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DMEL | Derived Minimal Effect Level |
| DNEL | Derived No-Effect Level |

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| Abbr. | Descriptions of used abbreviations |
|-------------|--|
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| ErC50 | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |
| Eye Dam. | Seriously damaging to the eye |
| Eye Irrit. | Irritant to the eye |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| LD50 | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval |
| LEL | Lower explosion limit (LEL) |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") |
| NOEC | No Observed Effect Concentration |
| NTP-RoC | National Toxicology Program: Report on Carcinogens |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| Skin Corr. | Corrosive to skin |
| Skin Irrit. | Irritant to skin |
| STEL | Short-term exposure limit |
| TWA | Time-weighted average |
| UEL | Upper explosion limit (UEL) |
| UN RTDG | UN Recommendations on the Transport of Dangerous Good |
| vPvB | Very Persistent and very Bioaccumulative |
| WES | Safe Work Australia: Workplace exposure standards for airborne contaminants |

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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List of relevant phrases (code and full text as stated in chapter 2 and 3)

| Code | Text |
|------|--|
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H331 | Toxic if inhaled. |

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.