




Bisulfite conversion reagent for RRBS

C02030035

Flyleaf

Date of compilation: 2020-08-18

Bill of materials

| Name of substance | Identifier | Number of pieces | Classification acc. to GHS | Pictograms | Page |
|--------------------------|------------|------------------|--|---|---------|
| BS Conversion Reagent | | 1 | Acute Tox. 4 / H302 Eye Dam. 1 / H318 |  | 2 – 11 |
| BS Dilution Buffer | | 1 | Skin Corr. 1A / H314 Eye Dam. 1 / H318 |  | 12 – 21 |
| BS Solubilization Buffer | | 1 | | | 22 – 30 |
| BS Reaction Buffer | | 1 | Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336 |  | 31 – 42 |

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

1.1 product identifier

| | |
|-----------------------------|------------------------------|
| trade name | BS Conversion Reagent |
| registration number (REACH) | not relevant (mixture) |
| product code(s) | K09791001/K09891001 |

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

| | |
|--------------------------|---|
| relevant identified uses | for research use only, not for use in diagnostic or therapeutic procedures. |
|--------------------------|---|

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

| | |
|-------------------------------|--|
| emergency information service | +32 4 364 20 50 this number is only available during the following of- fice hours: Mon-Fri 09:00 AM - 05:00 PM |
|-------------------------------|--|

| poison centre | | |
|----------------|--------------------------------------|-----------|
| country | name | telephone |
| United Kingdom | National Poisons Information Service | 111 |

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

| section | hazard class | category | hazard class and category | hazard statement |
|---------|-----------------------------------|----------|---------------------------|------------------|
| 3.10 | acute toxicity (oral) | 4 | Acute Tox. 4 | H302 |
| 3.3 | serious eye damage/eye irritation | 1 | Eye Dam. 1 | H318 |

for full text of abbreviations: see SECTION 16.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word danger

- pictograms
GHS05, GHS07



- hazard statements
H302 harmful if swallowed.
H318 causes serious eye damage.

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- precautionary statements
 - P270 do not eat, drink or smoke when using this product.
 - P280 wear protective gloves/protective clothing/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.
 - P310 immediately call a POISON CENTER/doctor.
 - P330 rinse mouth.
 - P501 dispose of contents/container to industrial combustion plant.
- supplemental hazard information
 - EUH031 contact with acids liberates toxic gas.
- hazardous ingredients for labelling Disodium disulphite

2.3 other hazards

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

description of the mixture

| name of substance | identifier | wt% | classification acc. to GHS | pictograms |
|---------------------|---|-----|--|------------|
| Disodium disulphite | CAS No 7681-57-4 EC No 231-673-0 index No 016-063-00-2 REACH Reg. No 01-2119531326-45-xxxx | 100 | Acute Tox. 4 / H302 Eye Dam. 1 / H318 | |

for full text of abbreviations: see SECTION 16.

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. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

rinse skin with water/shower.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

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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

water, foam, ABC-powder

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

sulphur oxides (SO_x)

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.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

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, take up mechanically

advice on how to clean up a spill

take up mechanically.

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. take precautionary measures against static discharge. use only in well-ventilated areas. ground/bond container and receiving equipment.

- specific notes/details

dust deposits may accumulate on all deposition surfaces in a technical room. the product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

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

- explosive atmospheres

removal of dust deposits.

- ventilation requirements

use local and general ventilation.

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

| 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] | Ceiling-C [ppm] | Ceiling-C [mg/m ³] | notation | source |
| GB | dust | | WEL | | 10 | | | | | i | EH40/2005 |
| GB | dust | | WEL | | 4 | | | | | r | EH40/2005 |
| GB | disodium disulfite | 7681-57-4 | WEL | | 5 | | | | | | EH40/2005 |

notation

Ceiling-C
i

ceiling value is a limit value above which exposure should not occur
inhalable fraction

r

respirable fraction

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)

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| relevant DNELs of components of the mixture | | | | | | |
|---|-----------|----------|-----------------------|------------------------------------|-------------------|----------------------------|
| name of substance | CAS No | endpoint | threshold level | protection goal, route of exposure | used in | exposure time |
| Disodium disulphite | 7681-57-4 | DNEL | 225 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |

| relevant PNECs of components of the mixture | | | | | | |
|---|-----------|----------|-----------------|-------------------|------------------------------|------------------------------|
| name of substance | CAS No | endpoint | threshold level | organism | environmental compartment | exposure time |
| Disodium disulphite | 7681-57-4 | PNEC | 1 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| Disodium disulphite | 7681-57-4 | PNEC | 0.1 mg/l | aquatic organisms | marine water | short-term (single instance) |
| Disodium disulphite | 7681-57-4 | PNEC | 75.4 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

in the case of wanting to use the gloves again, clean them before taking off and air them well.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

particulate filter device (EN 143).

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

| | |
|----------------|----------------|
| physical state | solid (powder) |
| colour | various |
| odour | characteristic |

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other safety parameters

| | |
|---|---|
| pH (value) | not applicable |
| melting point/freezing point | not determined |
| initial boiling point and boiling range | not determined |
| flash point | not applicable |
| evaporation rate | not determined |
| flammability (solid, gas) | non-combustible |
| explosion limits of dust clouds | not determined |
| vapour pressure | not determined |
| density | not determined |
| vapour density | this information is not available |
| relative density | information on this property is not available |
| solubility(ies) | not determined |

partition coefficient

| | |
|-----------------------------|-----------------------------------|
| - n-octanol/water (log KOW) | this information is not available |
| auto-ignition temperature | not determined |
| viscosity | not relevant (solid matter) |
| explosive properties | none |
| oxidising properties | none |

| | |
|------------------------------|------------------------------------|
| 9.2 other information | there is no additional information |
|------------------------------|------------------------------------|

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

see below "Conditions to avoid".

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.

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hints to prevent fire or explosion

the product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.5 incompatible materials

there is no additional information.

release of toxic materials with:

acids

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 according to GHS (1272/2008/EC, CLP)

acute toxicity

harmful if swallowed.

GHS of the United Nations, annex 4: may be harmful in contact with skin or if inhaled.

- acute toxicity estimate (ATE)

oral 1,420 mg/kg

| acute toxicity estimate (ATE) of components of the mixture | | | |
|--|-----------|----------------|-------------|
| name of substance | CAS No | exposure route | ATE |
| sodium metabisulfite | 7681-57-4 | oral | 1,420 mg/kg |

skin corrosion/irritation

shall not be classified as corrosive/irritant to skin.

serious eye damage/eye irritation

causes serious eye damage.

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).

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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.
- 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**
data are not available.
- 12.6 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. Refer to special instructions/safety data sheets.
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) | none |
| 14.4 packing group | not assigned to a packing group |
| 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 | the cargo is not intended to be carried in bulk. |

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Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

| abbr. | descriptions of used abbreviations |
|------------|---|
| Acute Tox. | Acute toxicity |
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR | Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road) |
| ATE | Acute Toxicity Estimate |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| EH40/2005 | EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/) |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| 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 |

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| abbr. | descriptions of used abbreviations |
|----------|---|
| index No | The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| STEL | Short-term exposure limit |
| TWA | Time-weighted average |
| vPvB | Very Persistent and very Bioaccumulative |
| WEL | Workplace exposure limit |

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). 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. |

disclaimer

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

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

1.1 product identifier

| | |
|-----------------------------|---------------------------|
| trade name | BS Dilution Buffer |
| registration number (REACH) | not relevant (mixture) |
| product code(s) | K09791002/K09891002 |

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

| | |
|--------------------------|---|
| relevant identified uses | for research use only, not for use in diagnostic or therapeutic procedures. |
| uses advised against | do not use for squirting or spraying. do not use for products which come into direct contact with the skin. |

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

| | |
|-------------------------------|--|
| emergency information service | +32 4 364 20 50 this number is only available during the following of- fice hours: Mon-Fri 09:00 AM - 05:00 PM |
|-------------------------------|--|

| poison centre | | |
|----------------|--------------------------------------|-----------|
| country | name | telephone |
| United Kingdom | National Poisons Information Service | 111 |

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

| section | hazard class | category | hazard class and category | hazard statement |
|---------|-----------------------------------|----------|---------------------------|------------------|
| 3.2 | skin corrosion/irritation | 1A | Skin Corr. 1A | H314 |
| 3.3 | serious eye damage/eye irritation | 1 | Eye Dam. 1 | H318 |

for full text of abbreviations: see SECTION 16.

the most important adverse physicochemical, human health and environmental effects

skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word danger

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- pictograms

GHS05



- hazard statements

H314 causes severe skin burns and eye damage.

- precautionary statements

P260 do not breathe dust/fume/gas/mist/vapours/spray.

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.

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.

P501 dispose of contents/container to industrial combustion plant.

- hazardous ingredients for labelling Sodium hydroxide

2.3 other hazards

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

description of the mixture

| name of substance | identifier | wt% | classification acc. to GHS | pictograms |
|-------------------|---|-----|---|------------|
| Sodium hydroxide | CAS No 1310-73-2 EC No 215-185-5 index No 011-002-00-6 REACH Reg. No 01-2119457892-27-xxxx | ≤ 5 | Skin Corr. 1A / H314 Eye Dam. 1 / H318 Aquatic Chronic 3 / H412 | |

for full text of abbreviations: see SECTION 16.

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. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

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

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following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

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

water spray, BC-powder, carbon dioxide (CO₂)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

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.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

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). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

other information relating to spills and releases

place in appropriate containers for disposal. ventilate affected area.

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6.4 reference to other sections

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.

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

control of effects

protect against external exposure, such as

frost

- packaging compatibilities

only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

| 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] | Ceiling-C [ppm] | Ceiling-C [mg/m ³] | notation | source |
| GB | sodium hydroxide | 1310-73-2 | WEL | | | | 2 | | | | EH40/2005 |

notation

Ceiling-C
STEL

ceiling value is a limit value above which exposure should not occur
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 of components of the mixture | | | | | | |
|---|-----------|----------|---------------------|------------------------------------|-------------------|-------------------------|
| name of substance | CAS No | endpoint | threshold level | protection goal, route of exposure | used in | exposure time |
| Sodium hydroxide | 1310-73-2 | DNEL | 1 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects |

8.2 exposure controls

appropriate engineering controls
general ventilation.

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individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. 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.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

| | |
|----------------|------------|
| physical state | liquid |
| colour | colourless |
| odour | odourless |

other safety parameters

| | |
|---|---|
| pH (value) | not determined |
| melting point/freezing point | not determined |
| initial boiling point and boiling range | not determined |
| flash point | not determined |
| evaporation rate | not determined |
| flammability (solid, gas) | not relevant, (fluid) |
| explosive limits | not determined |
| vapour pressure | not determined |
| density | not determined |
| vapour density | this information is not available |
| relative density | information on this property is not available |

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| | |
|------------------------------|------------------------------------|
| solubility(ies) | not determined |
| partition coefficient | |
| - n-octanol/water (log KOW) | this information is not available |
| auto-ignition temperature | not determined |
| viscosity | not determined |
| explosive properties | none |
| oxidising properties | none |
| 9.2 other information | there is no additional information |

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 chemical stability

see below "Conditions to avoid".

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

there is no additional information.

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 according to GHS (1272/2008/EC, CLP)

acute toxicity

shall not be classified as acutely toxic.

skin corrosion/irritation

causes severe skin burns and eye damage.

serious eye damage/eye irritation

causes serious eye damage.

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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.

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

data are not available.

12.6 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. Refer to special instructions/safety data sheets.

waste treatment of containers/packagings

it is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. 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** 1824
- 14.2 UN proper shipping name** SODIUM HYDROXIDE SOLUTION
- 14.3 transport hazard class(es)**
class 8 (corrosive substances)
- 14.4 packing group** II (substance presenting medium danger)
- 14.5 environmental hazards** non-environmentally hazardous acc. to the dangerous goods regulations
- 14.6 special precautions for user**
provisions for dangerous goods (ADR) should be complied within the premises.
- 14.7 transport in bulk according to Annex II of MARPOL and the IBC Code**
the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

- UN number 1824
- proper shipping name SODIUM HYDROXIDE SOLUTION
- class 8
- classification code C5
- packing group II
- danger label(s) 8



- excepted quantities (EQ) E2
- limited quantities (LQ) 1 L
- transport category (TC) 2
- tunnel restriction code (TRC) E
- hazard identification No 80
- Emergency Action Code 2R

International Maritime Dangerous Goods Code (IMDG)

- UN number 1824
- proper shipping name SODIUM HYDROXIDE SOLUTION
- class 8
- marine pollutant -
- packing group II
- danger label(s) 8




- special provisions (SP) -

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| | |
|---|---------------------------|
| excepted quantities (EQ) | E2 |
| limited quantities (LQ) | 1 L |
| EmS | F-A, S-B |
| stowage category | A |
| segregation group | 18 - Alkalis |
| International Civil Aviation Organization (ICAO-IATA/DGR) | |
| UN number | 1824 |
| proper shipping name | Sodium hydroxide solution |
| class | 8 |
| packing group | II |
| danger label(s) | 8 |
|  | |
| special provisions (SP) | A3 |
| excepted quantities (EQ) | E2 |
| limited quantities (LQ) | 0,5 L |

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

| abbr. | descriptions of used abbreviations |
|-----------------|---|
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR | Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road) |
| Aquatic Chronic | Hazardous to the aquatic environment - chronic hazard |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| EH40/2005 | EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/) |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |

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date of compilation: 2020-05-04

| abbr. | descriptions of used abbreviations |
|-------------|---|
| EmS | Emergency Schedule |
| 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 |
| index No | The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| ppm | Parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| Skin Corr. | Corrosive to skin |
| Skin Irrit. | Irritant to skin |
| STEL | Short-term exposure limit |
| TWA | Time-weighted average |
| vPvB | Very Persistent and very Bioaccumulative |
| WEL | Workplace exposure limit |

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). 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 |
|------|--|
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H412 | Harmful to aquatic life with long lasting effects. |

disclaimer

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

BS Solubilization Buffer

version number: GHS 1.0

date of compilation: 2020-05-04

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

1.1 product identifier

| | |
|-----------------------------|---------------------------------|
| trade name | BS Solubilization Buffer |
| registration number (REACH) | not relevant (mixture) |
| product code(s) | K09791003/K09891003 |

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

| | |
|--------------------------|---|
| relevant identified uses | for research use only, not for use in diagnostic or therapeutic procedures. |
|--------------------------|---|

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

| | |
|-------------------------------|--|
| emergency information service | +32 4 364 20 50 this number is only available during the following of- fice hours: Mon-Fri 09:00 AM - 05:00 PM |
|-------------------------------|--|

| poison centre | | |
|----------------|--------------------------------------|-----------|
| country | name | telephone |
| United Kingdom | National Poisons Information Service | 111 |

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)
this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)
not required

2.3 other hazards

results of PBT and vPvB assessment
this mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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SECTION 3: Composition/information on ingredients

3.1 substances

not relevant (mixture)

3.2 mixtures

description of the mixture

This mixture does not contain any potentially hazardous products.

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. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

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

water spray, BC-powder, carbon dioxide (CO₂)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO₂)

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.

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SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

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). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

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.

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

control of effects

protect against external exposure, such as

frost

7.3 specific end use(s)

see section 16 for a general overview.

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SECTION 8: Exposure controls/personal protection

8.1 control parameters

| 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] | Ceiling-C [ppm] | Ceiling-C [mg/m ³] | notation | source |
| GB | glycerol | 56-81-5 | WEL | | 10 | | | | | mist | EH40/2005 |

notation

Ceiling-C ceiling value is a limit value above which exposure should not occur

mist as mists

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)

8.2 exposure controls

appropriate engineering controls

general ventilation.

individual protection measures (personal protective equipment)

eye/face protection

wear eye/face protection.

skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. 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.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

| | |
|----------------|------------|
| physical state | liquid |
| colour | colourless |
| odour | odourless |

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other safety parameters

| | |
|---|---|
| pH (value) | not determined |
| melting point/freezing point | not determined |
| initial boiling point and boiling range | not determined |
| flash point | not determined |
| evaporation rate | not determined |
| flammability (solid, gas) | not relevant, (fluid) |
| explosive limits | not determined |
| vapour pressure | not determined |
| density | not determined |
| vapour density | this information is not available |
| relative density | information on this property is not available |
| solubility(ies) | not determined |

partition coefficient

| | |
|-----------------------------|-----------------------------------|
| - n-octanol/water (log KOW) | this information is not available |
| auto-ignition temperature | not determined |
| viscosity | not determined |
| explosive properties | none |
| oxidising properties | none |

| | |
|------------------------------|------------------------------------|
| 9.2 other information | there is no additional information |
|------------------------------|------------------------------------|

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

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

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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 according to GHS (1272/2008/EC, CLP)

this mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

acute toxicity

shall not be classified as acutely toxic.

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 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.

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.

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date of compilation: 2020-05-04

12.5 results of PBT and vPvB assessment

data are not available.

12.6 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. Refer to special instructions/safety data sheets.

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) | none |
| 14.4 | packing group | not assigned to a packing group |
| 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 | the cargo is not intended to be carried in bulk. |

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

| abbr. | descriptions of used abbreviations |
|-----------|---|
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR | Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road) |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| EH40/2005 | EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/) |
| 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 |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") |
| PBT | Persistent, Bioaccumulative and Toxic |
| ppm | Parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| STEL | Short-term exposure limit |
| TWA | Time-weighted average |
| vPvB | Very Persistent and very Bioaccumulative |
| WEL | Workplace exposure limit |

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). 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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version number: GHS 1.0

date of compilation: 2020-05-04

disclaimer

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

BS Reaction Buffer

version number: GHS 1.0

date of compilation: 2020-05-04

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

1.1 product identifier

| | |
|-----------------------------|---------------------------|
| trade name | BS Reaction Buffer |
| registration number (REACH) | not relevant (mixture) |
| product code(s) | K09791004/K09891004 |

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

| | |
|--------------------------|---|
| relevant identified uses | for research use only, not for use in diagnostic or therapeutic procedures. |
|--------------------------|---|

1.3 details of the supplier of the safety data sheet

Diagenode SA
LIEGE SCIENCE PARK Rue du Bois Saint-Jean, 3
4102 Seraing
Belgium

telephone: +32 4 364 20 50
e-mail: info@diagenode.com

1.4 emergency telephone number

| | |
|-------------------------------|--|
| emergency information service | +32 4 364 20 50 this number is only available during the following of- fice hours: Mon-Fri 09:00 AM - 05:00 PM |
|-------------------------------|--|

| poison centre | | |
|----------------|--------------------------------------|-----------|
| country | name | telephone |
| United Kingdom | National Poisons Information Service | 111 |

SECTION 2: Hazards identification

2.1 classification of the substance or mixture

classification according to Regulation (EC) No 1272/2008 (CLP)

| section | hazard class | category | hazard class and category | hazard statement |
|---------|---|----------|---------------------------|------------------|
| 2.6 | flammable liquid | 2 | Flam. Liq. 2 | H225 |
| 3.3 | serious eye damage/eye irritation | 2 | Eye Irrit. 2 | H319 |
| 3.8D | specific target organ toxicity - single exposure (narcotic effects, drowsiness) | 3 | STOT SE 3 | H336 |

for full text of abbreviations: see SECTION 16.

the most important adverse physicochemical, human health and environmental effects
the product is combustible and can be ignited by potential ignition sources.

2.2 label elements

labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word danger

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- pictograms

GHS02, GHS07



- hazard statements

H225 highly flammable liquid and vapour.
H319 causes serious eye irritation.
H336 may cause drowsiness or dizziness.

- precautionary statements

P210 keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 avoid breathing dust/fume/gas/mist/vapours/spray.
P312 call a POISON CENTRE/doctor if you feel unwell.
P370+P378 in case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
P403+P233 store in a well-ventilated place. Keep container tightly closed.
P403+P235 store in a well-ventilated place. Keep cool.
P501 dispose of contents/container to industrial combustion plant.

- hazardous ingredients for labelling Propan-2-ol

2.3 other hazards

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

description of the mixture

| name of substance | identifier | wt% | classification acc. to GHS | pictograms |
|-------------------|---|------|--|------------|
| Propan-2-ol | CAS No 67-63-0 EC No 200-661-7 index No 603-117-00-0 REACH Reg. No 01-2119457558-25-xxxx | ≤ 50 | Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336 | |

for full text of abbreviations: see SECTION 16.

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. keep affected person warm, still and covered. take off immediately all contaminated clothing. in all cases of doubt, or when symptoms persist, seek medical advice. in case of unconsciousness place person in the recovery position. Never give anything by mouth.

following inhalation

if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.

following skin contact

wash with plenty of soap and water.

BS Reaction Buffer

version number: GHS 1.0

date of compilation: 2020-05-04

following eye contact

remove contact lenses, if present and easy to do. Continue rinsing. irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

following ingestion

rinse mouth with water (only if the person is conscious). do NOT induce vomiting.

4.2 most important symptoms and effects, both acute and delayed

narcotic effects.

4.3 indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 extinguishing media

suitable extinguishing media

water spray, alcohol resistant foam, BC-powder, carbon dioxide (CO₂)

unsuitable extinguishing media

water jet

5.2 special hazards arising from the substance or mixture

in case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. solvent vapours are heavier than air and may spread along floors. places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO₂)

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.

SECTION 6: Accidental release measures

6.1 personal precautions, protective equipment and emergency procedures

for non-emergency personnel

remove persons to safety.

for emergency responders

wear breathing apparatus if exposed to vapours/dust/spray/gases.

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). collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

appropriate containment techniques

use of adsorbent materials.

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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. avoidance of ignition sources. keep away from sources of ignition - No smoking. take precautionary measures against static discharge. use only in well-ventilated areas. due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. ground/bond container and receiving equipment. use explosion-proof electrical/ventilating/lighting/equipment. use only non-sparking tools.

- specific notes/details

places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. vapours are heavier than air, spread along floors and form explosive mixtures with air. vapours may form explosive mixtures with air.

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

- explosive atmospheres

keep container tightly closed and in a well-ventilated place. use local and general ventilation. keep cool. protect from sunlight.

- flammability hazards

keep away from sources of ignition - No smoking. keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. take precautionary measures against static discharge. protect from sunlight.

control of effects

protect against external exposure, such as

frost

- ventilation requirements

use local and general ventilation. ground/bond container and receiving equipment.

- packaging compatibilities

only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 specific end use(s)

see section 16 for a general overview.

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SECTION 8: Exposure controls/personal protection

8.1 control parameters

| 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] | Ceiling-C [ppm] | Ceiling-C [mg/m ³] | notation | source |
| GB | propan-2-ol | 67-63-0 | WEL | 400 | 999 | 500 | 1,250 | | | | EH40/2005 |

notation

Ceiling-C

STEL

TWA

ceiling value is a limit value above which exposure should not occur

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)

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 of components of the mixture | | | | | | |
|---|---------|----------|-----------------------|------------------------------------|-------------------|----------------------------|
| name of substance | CAS No | endpoint | threshold level | protection goal, route of exposure | used in | exposure time |
| Propan-2-ol | 67-63-0 | DNEL | 500 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| Propan-2-ol | 67-63-0 | DNEL | 888 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |

| relevant PNECs of components of the mixture | | | | | | |
|---|---------|----------|-----------------|-----------------------|------------------------------|------------------------------|
| name of substance | CAS No | endpoint | threshold level | organism | environmental compartment | exposure time |
| Propan-2-ol | 67-63-0 | PNEC | 140.9 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| Propan-2-ol | 67-63-0 | PNEC | 140.9 mg/l | aquatic organisms | marine water | short-term (single instance) |
| Propan-2-ol | 67-63-0 | PNEC | 2,251 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| Propan-2-ol | 67-63-0 | PNEC | 552 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| Propan-2-ol | 67-63-0 | PNEC | 552 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |
| Propan-2-ol | 67-63-0 | PNEC | 28 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

wear eye/face protection.

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skin protection

- hand protection

wear suitable gloves. chemical protection gloves are suitable, which are tested according to EN 374. check leak-tightness/ impermeability prior to use. in the case of wanting to use the gloves again, clean them before taking off and air them well. 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.

- other protection measures

take recovery periods for skin regeneration. preventive skin protection (barrier creams/ointments) is recommended. wash hands thoroughly after handling.

respiratory protection

in case of inadequate ventilation wear respiratory protection.

environmental exposure controls

use appropriate container to avoid environmental contamination. keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 information on basic physical and chemical properties

appearance

| | |
|----------------|----------------|
| physical state | liquid |
| colour | colourless |
| odour | characteristic |

other safety parameters

| | |
|---|---|
| pH (value) | not determined |
| melting point/freezing point | not determined |
| initial boiling point and boiling range | not determined |
| flash point | not determined |
| evaporation rate | not determined |
| flammability (solid, gas) | not relevant, (fluid) |
| explosive limits | not determined |
| vapour pressure | not determined |
| density | not determined |
| vapour density | this information is not available |
| relative density | information on this property is not available |

solubility(ies)

| | |
|--------------------|----------------------------|
| - water solubility | miscible in any proportion |
|--------------------|----------------------------|

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partition coefficient

| | |
|------------------------------|------------------------------------|
| - n-octanol/water (log KOW) | this information is not available |
| auto-ignition temperature | not determined |
| viscosity | not determined |
| explosive properties | none |
| oxidising properties | none |
| 9.2 other information | there is no additional information |

SECTION 10: Stability and reactivity

10.1 reactivity

concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". the mixture contains reactive substances). risk of ignition.

if heated:

risk of ignition

10.2 chemical stability

see below "Conditions to avoid".

10.3 possibility of hazardous reactions

no known hazardous reactions.

10.4 conditions to avoid

keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

hints to prevent fire or explosion

use explosion-proof electrical/ventilating/lighting/equipment. use only non-sparking tools. take precautionary measures against static discharge.

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 according to GHS (1272/2008/EC, CLP)

acute toxicity

shall not be classified as acutely toxic.

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skin corrosion/irritation

shall not be classified as corrosive/irritant to skin.

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

may cause drowsiness or dizziness.

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.

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

data are not available.

12.6 other adverse effects

data are not available.

SECTION 13: Disposal considerations

13.1 waste treatment methods

waste treatment-relevant information

solvent reclamation/regeneration.

sewage disposal-relevant information

do not empty into drains. avoid release to the environment. Refer to special instructions/safety data sheets.

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waste treatment of containers/packagings

it is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. 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 | 1219 |
| 14.2 UN proper shipping name | ISOPROPANOL |
| 14.3 transport hazard class(es) | |
| class | 3 (flammable liquids) |
| 14.4 packing group | II (substance presenting medium danger) |
| 14.5 environmental hazards | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 special precautions for user | |
| | provisions for dangerous goods (ADR) should be complied within the premises. |
| 14.7 transport in bulk according to Annex II of MARPOL and the IBC Code | |
| | the cargo is not intended to be carried in bulk. |

Information for each of the UN Model Regulations

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

| | |
|----------------------|-------------|
| UN number | 1219 |
| proper shipping name | ISOPROPANOL |
| class | 3 |
| classification code | F1 |
| packing group | II |
| danger label(s) | 3 |



| | |
|-------------------------------|-----|
| special provisions (SP) | 601 |
| excepted quantities (EQ) | E2 |
| limited quantities (LQ) | 1 L |
| transport category (TC) | 2 |
| tunnel restriction code (TRC) | D/E |
| hazard identification No | 33 |
| Emergency Action Code | 2YE |

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International Maritime Dangerous Goods Code (IMDG)

| | |
|----------------------|-------------|
| UN number | 1219 |
| proper shipping name | ISOPROPANOL |
| class | 3 |
| marine pollutant | - |
| packing group | II |
| danger label(s) | 3 |



| | |
|--------------------------|----------|
| special provisions (SP) | - |
| excepted quantities (EQ) | E2 |
| limited quantities (LQ) | 1 L |
| EmS | F-E, S-D |
| stowage category | B |

International Civil Aviation Organization (ICAO-IATA/DGR)

| | |
|----------------------|-------------|
| UN number | 1219 |
| proper shipping name | Isopropanol |
| class | 3 |
| packing group | II |
| danger label(s) | 3 |



| | |
|--------------------------|------|
| special provisions (SP) | A180 |
| excepted quantities (EQ) | E2 |
| limited quantities (LQ) | 1 L |

SECTION 15: Regulatory information

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

15.2 Chemical Safety Assessment

chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

abbreviations and acronyms

| abbr. | descriptions of used abbreviations |
|-----------|---|
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR | Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road) |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |

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| abbr. | descriptions of used abbreviations |
|------------|---|
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| EH40/2005 | EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/) |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| Eye Dam. | Seriously damaging to the eye |
| Eye Irrit. | Irritant to the eye |
| Flam. Liq. | Flammable liquid |
| 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 |
| index No | The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| STEL | Short-term exposure limit |
| STOT SE | Specific target organ toxicity - single exposure |
| TWA | Time-weighted average |
| vPvB | Very Persistent and very Bioaccumulative |
| WEL | Workplace exposure limit |

key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). 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 |
|------|-------------------------------------|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |

disclaimer

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