## Bill of materials

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>Identifier</th>
<th>Number of pieces</th>
<th>Classification acc. to GHS</th>
<th>Pictograms</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>buffer A</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>2 – 10</td>
</tr>
<tr>
<td>buffer B</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>11 – 18</td>
</tr>
<tr>
<td>Wash buffer 1 w/o iso-</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>19 – 26</td>
</tr>
<tr>
<td>propanol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wash buffer 2 wo isopro-</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>27 – 34</td>
</tr>
<tr>
<td>panol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buffer C</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>35 – 43</td>
</tr>
<tr>
<td>iPure beads</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>44 – 51</td>
</tr>
<tr>
<td>carrier</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>52 – 59</td>
</tr>
</tbody>
</table>
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 product identifier
   - trade name: buffer A
   - registration number (REACH): not relevant (mixture)
   - alternative name(s): IPure

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 office hours: Mon-Fri 09:00 AM - 05:00 PM

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)
     - signal word: not required
     - pictograms: not required
     - supplemental hazard information: EUH210 safety data sheet available on request.

2.3 other hazards
   - there is no additional information.
   - 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

<table>
<thead>
<tr>
<th>name of substance</th>
<th>identifier</th>
<th>wt%</th>
<th>classification acc. to GHS</th>
<th>pictograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>CAS No 151-21-3</td>
<td>≤ 2</td>
<td>Flam. Sol. 2 / H228</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC No 205-788-1</td>
<td></td>
<td>Acute Tox. 4 / H302</td>
<td></td>
</tr>
<tr>
<td></td>
<td>REACH Reg. No 01-2119489461-32-xxxx</td>
<td></td>
<td>Skin Irrit. 2 / H315</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 / H332</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1 / H318</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3 / H335</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 3 / H412</td>
<td></td>
</tr>
</tbody>
</table>

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.

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.

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

7.3 specific end use(s)
see section 16 for a general overview.
SECTION 8: Exposure controls/personal protection

8.1 control parameters

This information is not available.

### relevant DNELs of components of the mixture

<table>
<thead>
<tr>
<th>name of substance</th>
<th>CAS No</th>
<th>endpoint</th>
<th>threshold level</th>
<th>protection goal, route of exposure</th>
<th>used in</th>
<th>exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>151-21-3</td>
<td>DNEL</td>
<td>285 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>151-21-3</td>
<td>DNEL</td>
<td>4,060 mg/kg bw/day</td>
<td>human, dermal</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
</tbody>
</table>

### relevant PNECs of components of the mixture

<table>
<thead>
<tr>
<th>name of substance</th>
<th>CAS No</th>
<th>endpoint</th>
<th>threshold level</th>
<th>organism</th>
<th>environmental compartment</th>
<th>exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>151-21-3</td>
<td>PNEC</td>
<td>0.176 mg/l</td>
<td>aquatic organisms</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>151-21-3</td>
<td>PNEC</td>
<td>0.018 mg/l</td>
<td>aquatic organisms</td>
<td>marine water</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>151-21-3</td>
<td>PNEC</td>
<td>1.35 mg/l</td>
<td>aquatic organisms</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>151-21-3</td>
<td>PNEC</td>
<td>6.97 mg/kg</td>
<td>aquatic organisms</td>
<td>freshwater sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>151-21-3</td>
<td>PNEC</td>
<td>0.697 mg/kg</td>
<td>aquatic organisms</td>
<td>marine sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>151-21-3</td>
<td>PNEC</td>
<td>1.29 mg/kg</td>
<td>terrestrial organisms</td>
<td>soil</td>
<td>short-term (single instance)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Physical state</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
</tbody>
</table>

### other safety parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (value)</td>
<td>not determined</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>not determined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>not relevant, (fluid)</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>not determined</td>
</tr>
<tr>
<td>Density</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapour density</td>
<td>this information is not available</td>
</tr>
<tr>
<td>Relative density</td>
<td>information on this property is not available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>not determined</td>
</tr>
</tbody>
</table>

### partition coefficient

- n-octanol/water (log KOW)  
  - this information is not available

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition temperature</td>
<td>not determined</td>
</tr>
<tr>
<td>Viscosity</td>
<td>not determined</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>none</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>none</td>
</tr>
</tbody>
</table>

## 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
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)
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.

germin 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
completely emptied packages can be recycled. handle contaminated packages in the same way as the substance itself.

remains
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.

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

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox.</td>
<td>Acute toxicity</td>
</tr>
<tr>
<td>ADN</td>
<td>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]</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route [European Agreement concerning the International Carriage of Dangerous Goods by Road]</td>
</tr>
<tr>
<td>Aquatic Chronic</td>
<td>Hazardous to the aquatic environment - chronic hazard</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations [see IATA/DGR]</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No-Effect Level</td>
</tr>
<tr>
<td>EC No</td>
<td>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]</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European List of Notified Chemical Substances</td>
</tr>
<tr>
<td>Eye Dam.</td>
<td>Seriously damaging to the eye</td>
</tr>
<tr>
<td>Eye Irrit.</td>
<td>Irritant to the eye</td>
</tr>
<tr>
<td>Flam. Sol.</td>
<td>Flammable solid</td>
</tr>
<tr>
<td>GHS</td>
<td>“Globally Harmonized System of Classification and Labelling of Chemicals” developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport [IATA]</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>index No</td>
<td>The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation [EC] No 1272/2008</td>
</tr>
</tbody>
</table>
buffer A

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of &quot;Marine Pollutant&quot;)</td>
</tr>
<tr>
<td>NLP</td>
<td>No-Longer Polymer</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No-Effect Concentration</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)</td>
</tr>
<tr>
<td>Skin Corr.</td>
<td>Corrosive to skin</td>
</tr>
<tr>
<td>Skin Irrit.</td>
<td>Irritant to skin</td>
</tr>
<tr>
<td>STOT SE</td>
<td>Specific target organ toxicity - single exposure</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

key literature references and sources for data

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)

<table>
<thead>
<tr>
<th>code</th>
<th>text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H228</td>
<td>Flammable solid.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H412</td>
<td>Harmful to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

disclaimer
this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.
**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1.1 **product identifier**

- trade name: buffer B
- registration number (REACH): not relevant (mixture)
- alternative name(s): IPure

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 office hours: Mon-Fri 09:00 AM - 05:00 PM

<table>
<thead>
<tr>
<th>poison centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>country</td>
</tr>
<tr>
<td>United Kingdom</td>
</tr>
</tbody>
</table>

**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.
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

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.

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

7.3 specific end use(s)
   see section 16 for a general overview.
SECTION 8: Exposure controls/personal protection

8.1 control parameters
this information is not available.

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

<table>
<thead>
<tr>
<th>physical state</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>colour</td>
<td>colourless</td>
</tr>
<tr>
<td>odour</td>
<td>odourless</td>
</tr>
</tbody>
</table>

other safety parameters

<table>
<thead>
<tr>
<th>pH (value)</th>
<th>not determined</th>
</tr>
</thead>
<tbody>
<tr>
<td>melting point/freezing point</td>
<td>not determined</td>
</tr>
<tr>
<td>initial boiling point and boiling range</td>
<td>not determined</td>
</tr>
<tr>
<td>flash point</td>
<td>not determined</td>
</tr>
<tr>
<td>evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>flammability (solid, gas)</td>
<td>not relevant, (fluid)</td>
</tr>
<tr>
<td>explosive limits</td>
<td>not determined</td>
</tr>
</tbody>
</table>
buffer B

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

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

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>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)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
</tr>
<tr>
<td>GHS</td>
<td>“Globally Harmonized System of Classification and Labelling of Chemicals” developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport (IATA)</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of “Marine Pollutant”)</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

key literature references and sources for data


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).

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 product identifier

trade name: Wash buffer 1 w/o iso-propanol
registration number (REACH): not relevant (mixture)

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 office hours: Mon-Fri 09:00 AM - 05:00 PM

poison centre

<table>
<thead>
<tr>
<th>country</th>
<th>name</th>
<th>telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service</td>
<td>111</td>
</tr>
</tbody>
</table>

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.
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

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.

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

7.3 **specific end use(s)**
   - see section 16 for a general overview.
SECTION 8: Exposure controls/personal protection

8.1 control parameters
this information is not available.

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

<table>
<thead>
<tr>
<th>physical state</th>
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<tr>
<td>odour</td>
<td>odourless</td>
</tr>
</tbody>
</table>

other safety parameters

<table>
<thead>
<tr>
<th>pH (value)</th>
<th>not determined</th>
</tr>
</thead>
<tbody>
<tr>
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<td>not determined</td>
</tr>
<tr>
<td>initial boiling point and boiling range</td>
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</tr>
<tr>
<td>flash point</td>
<td>not determined</td>
</tr>
<tr>
<td>evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>flammability (solid, gas)</td>
<td>not relevant, (fluid)</td>
</tr>
</tbody>
</table>
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
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)
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.

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.

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

#### indication of changes (revised safety data sheet)

<table>
<thead>
<tr>
<th>section</th>
<th>former entry (text/value)</th>
<th>actual entry (text/value)</th>
<th>safety-relevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2</td>
<td>mixtures: description of the mixture</td>
<td>mixtures: description of the mixture This mixture does not contain any potentially hazardous products.</td>
<td>yes</td>
</tr>
</tbody>
</table>

#### abbreviations and acronyms

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>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]</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route [European Agreement concerning the International Carriage of Dangerous Goods by Road]</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations [see IATA/DGR]</td>
</tr>
<tr>
<td>GHS</td>
<td>“Globally Harmonized System of Classification and Labelling of Chemicals” developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport [IATA]</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships [abbr. of “Marine Pollutant”]</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses [Regulations concerning the International carriage of Dangerous goods by Rail]</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

#### key literature references and sources for data


#### 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].

#### disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.
**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1.1 **product identifier**

- trade name: wash buffer 2 wo isopropanol
- registration number (REACH): not relevant (mixture)

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 office hours: Mon-Fri 09:00 AM - 05:00 PM

<table>
<thead>
<tr>
<th>poison centre</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>country</strong></td>
</tr>
<tr>
<td>United Kingdom</td>
</tr>
</tbody>
</table>

**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.
### SECTION 3: Composition/information on ingredients

3.1 substances
not relevant (mixture)

3.2 mixtures

<table>
<thead>
<tr>
<th>description of the mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>This mixture does not contain any potentially hazardous products.</td>
</tr>
</tbody>
</table>

### 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. |

<table>
<thead>
<tr>
<th>following inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>if breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. provide fresh air.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>following skin contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>wash with plenty of soap and water.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>following eye contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>following ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td>rinse mouth with water (only if the person is conscious). do NOT induce vomiting.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>suitable extinguishing media</th>
</tr>
</thead>
<tbody>
<tr>
<td>water spray, alcohol resistant foam, BC-powder, carbon dioxide (CO2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>unsuitable extinguishing media</th>
</tr>
</thead>
<tbody>
<tr>
<td>water jet</td>
</tr>
</tbody>
</table>

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.

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

7.3 specific end use(s)
   see section 16 for a general overview.
SECTION 8: Exposure controls/personal protection

8.1 control parameters
   this information is not available.

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 to-
            gether 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

<table>
<thead>
<tr>
<th>physical state</th>
<th>liquid</th>
</tr>
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<tbody>
<tr>
<td>colour</td>
<td>colourless</td>
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<tr>
<td>odour</td>
<td>odourless</td>
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</table>

other safety parameters

<table>
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<th>pH (value)</th>
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<td>melting point/freezing point</td>
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<tr>
<td>flash point</td>
<td>not determined</td>
</tr>
<tr>
<td>evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>flammability (solid, gas)</td>
<td>not relevant, (fluid)</td>
</tr>
</tbody>
</table>
wash buffer 2 wo isopropanol

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
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</thead>
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<tr>
<td>Explosive limits</td>
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</tr>
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<td>Vapour pressure</td>
<td>Not determined</td>
</tr>
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<td>Density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour density</td>
<td>This information is not available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Information on this property is not available</td>
</tr>
<tr>
<td>Solubility</td>
<td>- Water solubility: Miscible in any proportion</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>- n-Octanol/water (log KOW): This information is not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not determined</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>None</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>None</td>
</tr>
</tbody>
</table>

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
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)
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.

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.

SECTION 15: Regulatory information

15.1 safety, health and environmental regulations/legislation specific for the substance or mixture
chemical safety assessments for substances in this mixture were not carried out.

15.2 Chemical Safety Assessment

wash buffer 2 wo isopropanol

United Kingdom: en
SECTION 16: Other information

indication of changes (revised safety data sheet)

<table>
<thead>
<tr>
<th>section</th>
<th>former entry (text/value)</th>
<th>actual entry (text/value)</th>
<th>safety-relevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2</td>
<td>mixtures: description of the mixture</td>
<td>mixtures: description of the mixture This mixture does not contain any potentially hazardous products.</td>
<td>yes</td>
</tr>
</tbody>
</table>

abbreviations and acronyms

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>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)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
</tr>
<tr>
<td>GHS</td>
<td>“Globally Harmonized System of Classification and Labelling of Chemicals” developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport (IATA)</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships [abbr. of “Marine Pollutant”]</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses [Regulations concerning the International carriage of Dangerous goods by Rail]</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

key literature references and sources for data


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].

disclaimer

- this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 product identifier

trade name
Buffer C
registration number (REACH)
not relevant (mixture)

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 office hours: Mon-Fri 09:00 AM - 05:00 PM

<table>
<thead>
<tr>
<th>poison centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>country</td>
</tr>
<tr>
<td>United Kingdom</td>
</tr>
</tbody>
</table>

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.
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, alcohol resistant foam, 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.

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

7.3 specific end use(s)
   see section 16 for a general overview.
SECTION 8: Exposure controls/personal protection

8.1 control parameters
this information is not available.

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

<table>
<thead>
<tr>
<th>physical state</th>
<th>liquid</th>
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</thead>
<tbody>
<tr>
<td>colour</td>
<td>various</td>
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<td>odour</td>
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other safety parameters

<table>
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<tr>
<td>pH value</td>
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<td>flash point</td>
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<tr>
<td>evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>flammability (solid, gas)</td>
<td>not relevant, (fluid)</td>
</tr>
</tbody>
</table>
Buffer C

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
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)
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 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.

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
   recycling/reclamation of other inorganic materials.

   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.
**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**

**indication of changes (revised safety data sheet)**

<table>
<thead>
<tr>
<th>section</th>
<th>former entry (text/value)</th>
<th>actual entry (text/value)</th>
<th>safety-relevant</th>
</tr>
</thead>
</table>
| 3.2     | mixtures: description of the mixture | mixtures: description of the mixture
This mixture does not contain any potentially hazardous products. | yes |

**abbreviations and acronyms**

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>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)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations [see IATA/DGR]</td>
</tr>
<tr>
<td>GHS</td>
<td>“Globally Harmonized System of Classification and Labelling of Chemicals” developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport (IATA)</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of “Marine Pollutant”)</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses [Regulations concerning the International carriage of Dangerous goods by Rail]</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

**key literature references and sources for data**


**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].
disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.
Safety Data Sheet  
according to Regulation [EC] No. 1907/2006 (REACH)

IPure beads

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

1.1 product identifier

| trade name | IPure beads |
| registration number (REACH) | not relevant (mixture) |

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 office 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. |
**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
genral 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

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.

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

7.3 specific end use(s)
   see section 16 for a general overview.
SECTION 8: Exposure controls/personal protection

8.1 control parameters
this information is not available.

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 togeth-er 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

<table>
<thead>
<tr>
<th>physical state</th>
<th>liquid (suspension)</th>
</tr>
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<tbody>
<tr>
<td>colour</td>
<td>black</td>
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<tr>
<td>odour</td>
<td>odourless</td>
</tr>
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</table>

other safety parameters

<table>
<thead>
<tr>
<th>pH (value)</th>
<th>not determined</th>
</tr>
</thead>
<tbody>
<tr>
<td>melting point/freezing point</td>
<td>not determined</td>
</tr>
<tr>
<td>initial boiling point and boiling range</td>
<td>2,861 °C at 1,013 hPa</td>
</tr>
<tr>
<td>flash point</td>
<td>not determined</td>
</tr>
<tr>
<td>evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>flammability [solid, gas]</td>
<td>not relevant, (fluid)</td>
</tr>
</tbody>
</table>
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 | 350 °C [auto-ignition temperature (liquids and gases)]
viscosity | not determined
explosive properties | none
oxidising properties | none

9.2 other information

temperature class [EU, acc. to ATEX] | T2 [maximum permissible surface temperature on the equipment: 300°C]

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
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)
- 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 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.

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.

**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

indication of changes (revised safety data sheet)

<table>
<thead>
<tr>
<th>section</th>
<th>former entry (text/value)</th>
<th>actual entry (text/value)</th>
<th>safety-relevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2</td>
<td>mixtures: description of the mixture</td>
<td>mixtures: description of the mixture This mixture does not contain any potentially hazardous products.</td>
<td>yes</td>
</tr>
</tbody>
</table>

abbreviations and acronyms

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>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]</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route [European Agreement concerning the International Carriage of Dangerous Goods by Road]</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations [see IATA/DGR]</td>
</tr>
<tr>
<td>GHS</td>
<td>&quot;Globally Harmonized System of Classification and Labelling of Chemicals&quot; developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport [IATA]</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships [abbr. of &quot;Marine Pollutant&quot;]</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses [Regulations concerning the International carriage of Dangerous goods by Rail]</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

key literature references and sources for data


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].

disclaimer

this information is based upon the present state of our knowledge. this SDS has been compiled and is solely intended for this product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 product identifier
- trade name
- registration number (REACH)

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 office hours: Mon-Fri 09:00 AM - 05:00 PM

<table>
<thead>
<tr>
<th>poison centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>country</td>
</tr>
<tr>
<td>United Kingdom</td>
</tr>
</tbody>
</table>

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.

SECTION 3: Composition/information on ingredients

3.1 substances
- not relevant (mixture)

3.2 mixtures
- description of the mixture
### 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

#### 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.

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

7.3 specific end use(s)

see section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 control parameters

this information is not available.

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 |

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 |
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
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)
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.

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.

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

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>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)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
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<td>GHS</td>
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<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
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carrier

<table>
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<th>abbr.</th>
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</thead>
<tbody>
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</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses [Regulations concerning the International carriage of Dangerous goods by Rail]</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

key literature references and sources for data


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).

disclaimer

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