# 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 – 11</td>
</tr>
<tr>
<td>buffer B</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>12 – 19</td>
</tr>
<tr>
<td>Wash buffer 1 w/o isopropanol</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>20 – 27</td>
</tr>
<tr>
<td>wash buffer 2 wo isopropanol</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>28 – 35</td>
</tr>
<tr>
<td>Buffer C</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>36 – 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

1.1 product identifier

- trade name: buffer A
- 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 center</th>
<th>country</th>
<th>name</th>
<th>telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Association of Poison Control Centers</td>
<td>United States</td>
<td>1-800-222-1222</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazard(s) identification

2.1 classification of the substance or mixture

this mixture does not meet the criteria for classification.

2.2 label elements

- signal word: not required
- pictograms: not required

2.3 other hazards

there is no additional information.

hazards not otherwise classified

safety data sheet available on request.

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>Acute Tox. 4 / H302 Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Dam. 1 / H318 STOT SE 3 / H335 Flam. Sol. 2 / H228</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: Fire-fighting 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. coordinate 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 vapors/dust/aerosols/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 feedingsuffs.

7.2 conditions for safe storage, including any incompatibilities

control of the 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.

<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>

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
</tr>
<tr>
<td>physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>color</td>
<td>colorless</td>
</tr>
<tr>
<td>odor</td>
<td>odorless</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other safety parameters</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>vapor pressure</td>
<td>not determined</td>
</tr>
<tr>
<td>density</td>
<td>not determined</td>
</tr>
<tr>
<td>vapor 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>

<table>
<thead>
<tr>
<th>Partition coefficient</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>- n-octanol/water (log KOW)</td>
<td>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>oxidizing 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].

this mixture does not meet the criteria for classification.

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 sensitization
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/packages
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 assigned

14.3 transport hazard class(es)
not assigned

14.4 packing group
not assigned

14.5 environmental hazards
non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user
there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code
the cargo is not intended to be carried in bulk.
Information for each of the UN Model Regulations
transport of dangerous goods by road or rail (49 CFR US DOT)
not subject to transport regulations.

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 specific for the product in question
national regulations (United States)

VOC content

industry or sector specific available guidance(s)

NPCA-HMIS® III

<table>
<thead>
<tr>
<th>category</th>
<th>rating</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic</td>
<td>/</td>
<td>none</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>no significant risk to health</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
<td>material that will not burn under typical fire conditions</td>
</tr>
<tr>
<td>Physical hazard</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive</td>
</tr>
<tr>
<td>Personal protection</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

NFPA® 704

<table>
<thead>
<tr>
<th>category</th>
<th>degree of hazard</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>1</td>
<td>material that must be preheated before ignition can occur</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions</td>
</tr>
<tr>
<td>Special hazard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15.2 Chemical Safety Assessment
chemical safety assessments for substances in this mixture were not carried out.
SECTION 16: Other information, including date of preparation or last revision

abbreviations and acronyms

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>49 CFR US DOT</td>
<td>49 CFR U.S. Department of Transportation</td>
</tr>
<tr>
<td>Acute Tox.</td>
<td>Acute toxicity</td>
</tr>
<tr>
<td>Cal ARB</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service [service that maintains the most comprehensive list of chemical substances]</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>EPA</td>
<td>Environmental Protection Agency. An agency of the federal government of the United States charged with protecting human health and the environment</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>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships [abbr. of “Marine Pollutant&quot;]</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration [United States]</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>RTECS</td>
<td>Registry of Toxic Effects of Chemical Substances [database of NIOSH with toxicological information]</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>VOC</td>
<td>Volatile Organic Compounds</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>H32</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</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

1.1 product identifier
   trade name          buffer B
   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 center</th>
</tr>
</thead>
<tbody>
<tr>
<td>country</td>
</tr>
<tr>
<td>name</td>
</tr>
<tr>
<td>telephone</td>
</tr>
<tr>
<td>American Association of Poison Control Centers</td>
</tr>
<tr>
<td>1-800-222-1222</td>
</tr>
</tbody>
</table>

SECTION 2: Hazard(s) identification

2.1 classification of the substance or mixture
   this mixture does not meet the criteria for classification.

2.2 label elements
   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: Fire-fighting 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. Coordinate 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 vapors/dust/aerosols/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 feedingsuffs.

7.2 **conditions for safe storage, including any incompatibilities**

control of the 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

<table>
<thead>
<tr>
<th>property</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>color</td>
<td>colorless</td>
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other safety parameters

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<tr>
<td>evaporation rate</td>
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<td>flammability (solid, gas)</td>
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<td>explosive limits</td>
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<td>vapor pressure</td>
<td>not determined</td>
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<tr>
<td>density</td>
<td>not determined</td>
</tr>
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<td>vapor density</td>
<td>this information is not available</td>
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<tr>
<td>relative density</td>
<td>information on this property is not available</td>
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<tr>
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<td>partition coefficient</td>
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<tr>
<td>- n-octanol/water (log KOW)</td>
<td>this information is not available</td>
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</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].


This mixture does not meet the criteria for classification.

**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 sensitization**

Shall not be classified as a respiratory or skin sensitizer.

**germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.
buffer B

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/packages
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 assigned

14.3 transport hazard class(es)  
not assigned

14.4 packing group  
not assigned

14.5 environmental hazards  
non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user  
there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code  
the cargo is not intended to be carried in bulk.

**Information for each of the UN Model Regulations**

**transport of dangerous goods by road or rail (49 CFR US DOT)**  
not subject to transport regulations.

**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 specific for the product in question  
national regulations (United States)

**VOC content**  

**industry or sector specific available guidance(s)**

**NPCA-HMIS® III**  

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<th>rating</th>
<th>description</th>
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</thead>
<tbody>
<tr>
<td>Chronic</td>
<td>/</td>
<td>none</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>no significant risk to health</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
<td>material that will not burn under typical fire conditions</td>
</tr>
<tr>
<td>Physical hazard</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive</td>
</tr>
<tr>
<td>Personal protection</td>
<td>-</td>
<td></td>
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**NFPA® 704**  
### buffer B

<table>
<thead>
<tr>
<th>category</th>
<th>degree of hazard</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>0</td>
<td>material that will not burn under typical fire conditions</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions</td>
</tr>
</tbody>
</table>

#### 15.2 Chemical Safety Assessment

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

### SECTION 16: Other information, including date of preparation or last revision

#### abbreviations and acronyms

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
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<tbody>
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<td>Cal ARB</td>
<td>California Air Resources Board</td>
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<td>DGR</td>
<td>Dangerous Goods Regulations [see IATA/DGR]</td>
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<td>EPA</td>
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<td>IATA</td>
<td>International Air Transport Association</td>
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<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>
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<tr>
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<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>
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<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration (United States)</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds</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

1.1 product identifier
trade name
Wash buffer 1 w/o iso-propanol

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 center</th>
<th>name</th>
<th>telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Association of Poison Control Centers</td>
<td>1-800-222-1222</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazard(s) identification

2.1 classification of the substance or mixture

2.2 label elements

2.3 other hazards
results of PBT and vPvB assessmentthis 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: Fire-fighting 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. coordinate 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 vapors/dust/aerosols/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 the 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

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<td>color</td>
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<tr>
<td>odor</td>
<td>odorless</td>
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</table>

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 |
| vapor pressure | not determined |
| density | not determined |
| vapor 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 |
### Safety Data Sheet

**Wash buffer 1 w/o iso-propanol**

**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].

- this mixture does not meet the criteria for classification.

- **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 sensitization**
  - 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/packages
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 assigned

14.3 transport hazard class(es)
not assigned

14.4 packing group
not assigned

14.5 environmental hazards
non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user
there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code
the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations
transport of dangerous goods by road or rail (49 CFR US DOT)
not subject to transport regulations.

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 specific for the product in question
national regulations (United States)

VOC content

industry or sector specific available guidance(s)
NPCA-HMIS® III

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<tr>
<th>category</th>
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<td>no significant risk to health</td>
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<td>Flammability</td>
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<td>material that will not burn under typical fire conditions</td>
</tr>
<tr>
<td>Physical hazard</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive</td>
</tr>
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<td>Personal protection</td>
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NFPA® 704
### Wash buffer 1 w/o iso-propanol

**category**

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<td>Health</td>
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<td>Instability</td>
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</table>

**Special hazard**

**15.2 Chemical Safety Assessment**

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

**SECTION 16: Other information, including date of preparation or last revision**

**abbreviations and acronyms**

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
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<tbody>
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<tr>
<td>MARPOL</td>
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<td>Volatile Organic Compounds</td>
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<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

1.1 product identifier

trade name: wash buffer 2 wo isopropanol

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 center</th>
<th>name</th>
<th>telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Association of Poison Control Centers</td>
<td>1-800-222-1222</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazard(s) identification

2.1 classification of the substance or mixture

this mixture does not meet the criteria for classification.

2.2 label elements

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: Fire-fighting 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. coordinate 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 vapors/dust/aerosols/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 the 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

<table>
<thead>
<tr>
<th>property</th>
<th>value</th>
</tr>
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<tbody>
<tr>
<td>physical state</td>
<td>liquid</td>
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<td>color</td>
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<td>pH (value)</td>
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<tr>
<td>melting point/freezing point</td>
<td>not determined</td>
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<td>initial boiling point and boiling range</td>
<td>not determined</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>
<tr>
<td>explosive limits</td>
<td>not determined</td>
</tr>
<tr>
<td>vapor pressure</td>
<td>not determined</td>
</tr>
<tr>
<td>density</td>
<td>not determined</td>
</tr>
<tr>
<td>vapor 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></td>
</tr>
</tbody>
</table>
  - water solubility              | miscible in any proportion  |
partition coefficient
- n-octanol/water (log KOW) this information is not available

auto-ignition temperature not determined
viscosity not determined
explosive properties none
oxidizing properties none

9.2 other information there is no additional information

SECTION 10: Stability and reactivity

10.1 reactivity
cconcerning 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].

this mixture does not meet the criteria for classification.

critical 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 sensitization
shall not be classified as a respiratory or skin sensitizer.
wash buffer 2 wo isopropanol

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/packages
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 assigned
14.3 transport hazard class(es)  not assigned
14.4 packing group           not assigned
14.5 environmental hazards  non-environmentally hazardous acc. to the dangerous goods regulations
14.6 special precautions for user  there is no additional information.
14.7 transport in bulk according to Annex II of MARPOL and the IBC Code  the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations
transport of dangerous goods by road or rail (49 CFR US DOT)  not subject to transport regulations.
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 specific for the product in question
national regulations (United States)
VOC content
industry or sector specific available guidance(s)
NPCA-HMIS® III

<table>
<thead>
<tr>
<th>category</th>
<th>rating</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic</td>
<td>/</td>
<td>none</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>no significant risk to health</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
<td>material that will not burn under typical fire conditions</td>
</tr>
<tr>
<td>Physical hazard</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive</td>
</tr>
<tr>
<td>Personal protection</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

NFPA® 704
### Flammability
- Degree of Hazard: 0
- Material that will not burn under typical fire conditions

### Health
- Degree of Hazard: 0
- Material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material

### Instability
- Degree of Hazard: 0
- Material that is normally stable, even under fire conditions

### Special Hazards

#### 15.2 Chemical Safety Assessment

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

#### SECTION 16: Other information, including date of preparation or last revision

### Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>49 CFR US DOT</td>
<td>49 CFR U.S. Department of Transportation</td>
</tr>
<tr>
<td>Cal ARB</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations [see IATA/DGR]</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency. An agency of the federal government of the United States charged with protecting human health and the environment</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 &quot;Marine Pollutant&quot;]</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration (United States)</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds</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

1.1 product identifier
trade name: Buffer C

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 center</th>
<th>name</th>
<th>telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Association of Poison Control Centers</td>
<td>1-800-222-1222</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazard(s) identification

2.1 classification of the substance or mixture
this mixture does not meet the criteria for classification.

2.2 label elements
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: Fire-fighting 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. coordinate 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 vapors/dust/aerosols/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 the 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

<table>
<thead>
<tr>
<th>property</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>physical state</td>
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<td>color</td>
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<td>odor</td>
<td>characteristic</td>
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<td><strong>other safety parameters</strong></td>
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<td>pH (value)</td>
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</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>
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<tr>
<td>explosive limits</td>
<td>not determined</td>
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<tr>
<td>vapor pressure</td>
<td>not determined</td>
</tr>
<tr>
<td>density</td>
<td>not determined</td>
</tr>
<tr>
<td>vapor 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>
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</tr>
<tr>
<td>- water solubility</td>
<td>miscible in any proportion</td>
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</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].

   this mixture does not meet the criteria for classification.

   **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 sensitzation**
   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/packages
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 assigned

14.3 transport hazard class(es) not assigned

14.4 packing group not assigned

14.5 environmental hazards non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road or rail (49 CFR US DOT) not subject to transport regulations.

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 specific for the product in question

national regulations (United States)

VOC content


industry or sector specific available guidance(s)

NPCA-HMIS® III


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<th>category</th>
<th>rating</th>
<th>description</th>
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<tbody>
<tr>
<td>Chronic</td>
<td>/</td>
<td>none</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>no significant risk to health</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
<td>material that will not burn under typical fire conditions</td>
</tr>
<tr>
<td>Physical hazard</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive</td>
</tr>
<tr>
<td>Personal protection</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

NFPA® 704

### Flammability
- **degree of hazard**: 0
- **description**: material that will not burn under typical fire conditions

### Health
- **degree of hazard**: 0
- **description**: material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material

### Instability
- **degree of hazard**: 0
- **description**: material that is normally stable, even under fire conditions

### Special hazard

#### 15.2 Chemical Safety Assessment
chemical safety assessments for substances in this mixture were not carried out.

#### SECTION 16: Other information, including date of preparation or last revision

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>49 CFR US DOT</td>
<td>49 CFR U.S. Department of Transportation</td>
</tr>
<tr>
<td>Cal ARB</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations [see IATA/DGR]</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency. An agency of the federal government of the United States charged with protecting human health and the environment</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>
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<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 &quot;Marine Pollutant&quot;]</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration (United States)</td>
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<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

### key literature references and sources for data
transport of dangerous goods by road or rail (49 CFR US DOT), International Maritime Dangerous Goods Code (IMDG), Dangerous Goods Regulations (DGR) for the air transport (IATA).

### classification procedure
physical and chemical properties: the classification is based on tested mixture.
health hazards, environmental hazards: the method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### 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

1.1 product identifier
trade name
IPure beads

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 center</th>
</tr>
</thead>
<tbody>
<tr>
<td>country</td>
</tr>
<tr>
<td>American Association of Poison Control Centers</td>
</tr>
</tbody>
</table>

SECTION 2: Hazard(s) identification

2.1 classification of the substance or mixture
this mixture does not meet the criteria for classification.

2.2 label elements
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: Fire-fighting 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. coordinate 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 vapors/dust/aerosols/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 the 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 (suspension) |
| color           | black            |
| odor            | odorless         |

| other safety parameters |
|-------------------------|------------------|
| pH (value)              | not determined   |
| melting point/freezing point | not determined |
| initial boiling point and boiling range | 2,861 °C at 1,013 hPa |
| flash point             | not determined   |
| evaporation rate        | not determined   |
| flammability (solid, gas) | not relevant, (fluid) |
| explosive limits        | not determined   |
| vapor pressure          | not determined   |
| density                 | not determined   |
| vapor 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 9: Physical properties

<table>
<thead>
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<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>auto-ignition temperature</td>
<td>350 °C (auto-ignition temperature (liquids and gases))</td>
</tr>
<tr>
<td>viscosity</td>
<td>not determined</td>
</tr>
<tr>
<td>explosive properties</td>
<td>none</td>
</tr>
<tr>
<td>oxidizing properties</td>
<td>none</td>
</tr>
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</table>

9.2 other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>temperature class (USA, acc. to NEC 500)</td>
<td>T2</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1 reactivity

cconcerning 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].


this mixture does not meet the criteria for classification.

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 sensitization

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/packages
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 assigned

14.3 transport hazard class(es)
not assigned

14.4 packing group
not assigned

14.5 environmental hazards
non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user
there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code
the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

transport of dangerous goods by road or rail (49 CFR US DOT)
not subject to transport regulations.

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 specific for the product in question

national regulations (United States)

VOC content

industry or sector specific available guidance(s)

NPCA-HMIS® III

<table>
<thead>
<tr>
<th>category</th>
<th>rating</th>
<th>description</th>
</tr>
</thead>
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<tr>
<td>Chronic</td>
<td>/</td>
<td>none</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>no significant risk to health</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
<td>material that will not burn under typical fire conditions</td>
</tr>
<tr>
<td>Physical hazard</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive</td>
</tr>
<tr>
<td>Personal protection</td>
<td>-</td>
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NFPA® 704
### Flammability

<table>
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<tr>
<th>degree of hazard</th>
<th>description</th>
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<td>0</td>
<td>material that will not burn under typical fire conditions</td>
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### Health

<table>
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<th>degree of hazard</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material</td>
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</tbody>
</table>

### Instability

<table>
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<th>degree of hazard</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>material that is normally stable, even under fire conditions</td>
</tr>
</tbody>
</table>

### Special hazard

<table>
<thead>
<tr>
<th></th>
<th>15.2 Chemical Safety Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>chemical safety assessments for substances in this mixture were not carried out.</td>
</tr>
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</table>

### SECTION 16: Other information, including date of preparation or last revision

#### abbreviations and acronyms

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<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
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<td>49 CFR U.S. Department of Transportation</td>
</tr>
<tr>
<td>Cal ARB</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations [see IATA/DGR]</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency. An agency of the federal government of the United States charged with protecting human health and the environment</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>
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<td>International Maritime Dangerous Goods Code</td>
</tr>
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<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of &quot;Marine Pollutant&quot;)</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration (United States)</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds</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

1.1 product identifier
carrier

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>
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<th>poison center</th>
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<th>name</th>
<th>telephone</th>
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<tr>
<td>American Association of Poison Control Centers</td>
<td></td>
<td></td>
<td>1-800-222-1222</td>
</tr>
</tbody>
</table>

SECTION 2: Hazard(s) identification

2.1 classification of the substance or mixture
this mixture does not meet the criteria for classification.

2.2 label elements
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: Fire-fighting 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. coordinate 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 vapors/dust/aerosols/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 the 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

<table>
<thead>
<tr>
<th>appearance</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>color</td>
<td>colorless</td>
</tr>
<tr>
<td>odor</td>
<td>odorless</td>
</tr>
</tbody>
</table>

other safety parameters

<table>
<thead>
<tr>
<th>parameter</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (value)</td>
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</tr>
<tr>
<td>melting point/freezing point</td>
<td>not determined</td>
</tr>
<tr>
<td>initial boiling point and boiling range</td>
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<td>flash point</td>
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<td>evaporation rate</td>
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<td>explosive limits</td>
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<tr>
<td>vapor pressure</td>
<td>not determined</td>
</tr>
<tr>
<td>density</td>
<td>not determined</td>
</tr>
<tr>
<td>vapor density</td>
<td>this information is not available</td>
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<tr>
<td>relative density</td>
<td>information on this property is not available</td>
</tr>
<tr>
<td>solubility[ies]</td>
<td>not determined</td>
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</table>

partition coefficient

- n-octanol/water (log KOW) | this information is not available |
<table>
<thead>
<tr>
<th>Property</th>
<th>Information</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>oxidizing 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].

This mixture does not meet the criteria for classification.

#### 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 sensitization  
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/packages
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 assigned

14.3 transport hazard class(es)
not assigned

14.4 packing group
not assigned

14.5 environmental hazards
non-environmentally hazardous acc. to the dangerous goods regulations

14.6 special precautions for user
there is no additional information.

14.7 transport in bulk according to Annex II of MARPOL and the IBC Code
the cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations
transport of dangerous goods by road or rail (49 CFR US DOT)
not subject to transport regulations.

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 specific for the product in question

national regulations (United States)

VOC content

industry or sector specific available guidance(s)

NPCA-HMIS® III

<table>
<thead>
<tr>
<th>category</th>
<th>rating</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic</td>
<td>/</td>
<td>none</td>
</tr>
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</tr>
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<td>material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive</td>
</tr>
<tr>
<td>Personal protection</td>
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NFPA® 704
carrier

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<th>category</th>
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<th>description</th>
</tr>
</thead>
<tbody>
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<td>Flammability</td>
<td>0</td>
<td>material that will not burn under typical fire conditions</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions</td>
</tr>
<tr>
<td>Special hazard</td>
<td></td>
<td></td>
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</table>

**15.2 Chemical Safety Assessment**

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

**SECTION 16: Other information, including date of preparation or last revision**

**abbreviations and acronyms**

<table>
<thead>
<tr>
<th>abbr.</th>
<th>descriptions of used abbreviations</th>
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<tbody>
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<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.