1.1 Product identifier

Cooling media for absorption cooling units

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

Relevant identified uses of the substance or mixture:

Sector of use [SU]:
SU16 - Manufacture of computer, electronic and optical products, electrical equipment

Chemical product category [PC]:
PC16 - Heat transfer fluids

Process category [PROC]:
PROC 1 - Use in closed process, no likelihood of exposure.
PROC 8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC 8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC 9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC20 - Heat and pressure transfer fluids in dispersive, professional use but closed systems

Article Categories [AC]:
AC 2 - Machinery, mechanical appliances, electrical/electronic articles

Environmental Release Category [ERC]:
ERC 9a - Wide dispersive indoor use of substances in closed systems

Uses advised against:
No information available at present.

1.3 Details of the supplier of the safety data sheet

Dometic Deutschland GmbH, In der Steinwiese 16, D-57074 Siegen
Telephone +49 271 692 0, Fax +49 271 692 300

Dometic UK Ltd, Dometic House, The Brewery, DT11 9LS Blandford St Mary, Dorset, England, Phone: +44 (0) 0844 626 0133, Fax: +44 (0) 0844 626 0143

E-mail address of the competent person: info@chemical-check.de, k.schnurbusch@chemical-check.de

1.4 Emergency telephone

Advisory office in case of poisoning:
---

Telephone number of the company in case of emergencies:
Tel.: +49 (0) 700 / 24 112 112 (CCWA)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) 1272/2008 (CLP)
Not determined

2.1.2 Classification according to Directives 67/548/EEC and 1999/45/EC (including amendments).

Carc. Cat. 2, Carcinogen, R45
Muta. Cat. 2, Mutagen, R46
C, Corrosive, R34
T, Toxic, R23
Sensitizing, R42/43
Xn, Harmful, R48/20
Repr. Cat. 2, Toxic to reproduction, R60
2.2 Label elements

2.2.1 Labeling according to Regulation (EC) 1272/2008 (CLP)

Not determined

2.2.2 Labeling according to Directives 67/548/EEC and 1999/45/EC (including amendments).

Symbols: T/N

Indications of danger:
Toxic
Dangerous for the environment

R-phrases:
45 May cause cancer.
46 May cause heritable genetic damage.
34 Causes burns.
23 Toxic by inhalation.
42/43 May cause sensitization by inhalation and skin contact.
48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
60 May impair fertility.
61 May cause harm to the unborn child.

S-phrases:
53 Avoid exposure - obtain special instructions before use.
1/2 Keep locked up and out of the reach of children.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
60 This material and its container must be disposed of as hazardous waste.
61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

Additions:
Ammonia
Sodium chromate
Restricted to professional users.

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006.

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006.

Restricted to professional users.

SECTION 3: Composition/information on ingredients

3.1 Substance
n.a.

3.2 Mixture

<table>
<thead>
<tr>
<th>Substance</th>
<th>Substance for which an EU exposure limit value applies.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Registration number (ECHA)</th>
<th>Index</th>
<th>EINECS, ELINCS</th>
<th>CAS</th>
<th>content %</th>
<th>Symbol</th>
<th>R-phrases</th>
<th>Classification categories / Indications of danger</th>
<th>Hazard class/Hazard category</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia</td>
<td>007-001-01-2</td>
<td>215-647-6</td>
<td>CAS 1336-21-6</td>
<td>28-40</td>
<td>C/N</td>
<td>34-50</td>
<td>Corrosive, Dangerous for the environment</td>
<td>H314</td>
<td>H400</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation
Supply person with fresh air. Call doctor immediately.
Medical supervision necessary due to possibility of delayed reaction.
Remove person from danger area.
Keep Data Sheet available.
Respiratory arrest - Artificial respiration apparatus necessary.

Skin contact
Wash thoroughly using copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult doctor.
Delayed effects from exposure can be expected.

Eye contact
Remove contact lenses.
Wash thoroughly for several minutes using copious water - call doctor immediately, have Data Sheet available.
Protect uninjured eye.

Ingestion
Rinse the mouth thoroughly with water.
Give water to drink.
Call doctor immediately - have Data Sheet available.

4.2 Most important symptoms and effects, both acute and delayed
If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
The following may occur:
Risk of serious damage to eyes.
Irritation of the respiratory tract
Burning of the membranes of the nose and throat
Oedema of the lungs
Respiratory distress
Cramps
Allergic reaction possible.
Liver and kidney damage
Gastrointestinal disturbances
4.3 Indication of any immediate medical attention and special treatment needed
n.c.
There should be an eyewash station and safety shower located near the area of use.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Water jet spray
Unsuitable extinguishing media
High volume water jet
5.2 Special hazards arising from the substance or mixture
In case of fire the following can develop:
Ammonia vapour
Toxic gases
Toxic vapours
5.3 Advice for firefighters
Protective respirator with independent air supply.
Full protection
Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
If air supply is not sufficient, wear protective breathing apparatus.
Avoid inhalation, and contact with eyes or skin.
No contact with products of this type in case of allergies, asthma und chronic respiratory tract disorders.
Only use in closed systems.
6.2 Environmental precautions
Prevent from entering drainage system.
If leakage occurs, dam up.
Avoid release to the environment.
6.3 Methods and material for containment and cleaning up
Soak up with absorbent material (e.g. universal binding agent) and dispose of according to Section 13.
If spray or gas escapes, ensure ample fresh air is available.
Diluting with water is possible.
6.4 Reference to other sections
For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.
7.1 Precautions for safe handling
Handle only when appropriate ventilation system is activated.
Only use working methods according to operating instructions.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Keep away from sources of ignition - Do not smoke.
Observe directions on label and instructions for use.
Take precautions against electrostatic charges.
General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.
7.2 Conditions for safe storage, including any incompatibilities
Keep out of access to unauthorised individuals.
Not to be stored in gangways or stair wells.
Store product closed and only in original packing.
Do not use alkali sensitive materials.
8.1 Control parameters

### Chemical Name
- **Ammonia**
- **Sodium chromate**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Content %: 28-40</th>
<th>WEL-TWA: NH₃ 25 ppm (18 mg/m³) (WEL), 20 ppm (14 mg/m³) (EC)</th>
<th>WEL-STEL: NH₃ 35 ppm (25 mg/m³) (WEL), 50 ppm (36 mg/m³) (EC)</th>
<th>BMGV:</th>
<th>Other information:</th>
</tr>
</thead>
</table>

- **WEL-TWA** = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period).
- **WEL-STEL** = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).
- **BMGV** = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany).
- **Other information:** Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
- **** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction. If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn. Applies only if maximum permissible exposure values are listed here.

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable. Wash hands before breaks and at end of work. Keep away from food, drink and animal feedingstuffs. Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
- Tight fitting protective goggles with side protection (EN 166).
- Face protection (EN 166)

Skin protection - Hand protection:
- Use alkali resistant protective gloves (EN 374).
- Rubber gloves (EN 374).

Skin protection - Other:
- Alkali-resistant protection clothing (EN 13034) According to operation.

Respiratory protection:
- Gas mask
- Filter K (EN 14387), code colour green

Thermal hazards:
If applicable, these are included in the individual protective measures (eye/face protection, skin protection, respiratory protection).

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents. Selection of materials derived from glove manufacturer's indications. Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account. Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer. In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use. The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls
No information available at present.

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>Colour</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>Not determined</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH-value</td>
<td>&gt;10</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not determined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>n.a.</td>
</tr>
<tr>
<td>Flash point</td>
<td>n.a.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Lower explosive limit</td>
<td>15 Vol-% (Ammonia)</td>
</tr>
<tr>
<td>Upper explosive limit</td>
<td>28 Vol-% (Ammonia)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour density (air = 1)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Bulk density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Soluble</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>~630 °C (Ignition temperature Ammonia)</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not determined</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not determined</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

### 9.2 Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miscibility</td>
<td>Not determined</td>
</tr>
<tr>
<td>Fat solubility / solvent</td>
<td>Not determined</td>
</tr>
<tr>
<td>Conductivity</td>
<td>Not determined</td>
</tr>
<tr>
<td>Surface tension</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solvents content</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

#### 10.1 Reactivity
See also Subsection 10.4 to 10.6.
The product has not been tested.

#### 10.2 Chemical stability
See also Subsection 10.4 to 10.6.

#### 10.3 Possibility of hazardous reactions
See also Subsection 10.4 to 10.6.

#### 10.4 Conditions to avoid
See also section 7.
Heating, open flame, ignition sources

#### 10.5 Incompatible materials
See also section 7.
Zinc
Cooling media for absorption cooling units

Iodine
Copper
Aluminium
Halogens
Contact with strong acids leads to strong exothermic reaction.
Avoid contact with oxidizing agents.
Avoid contact with other chemicals.
Avoid contact with alkali sensitive materials.
Organic materials
Reducing agent

10.6 Hazardous decomposition products
See also Subsection 10.4 to 10.6.
See also section 5.2

SECTION 11: Toxicological information

Cooling media for absorption cooling units

<table>
<thead>
<tr>
<th>Toxicity/effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity, by dermal route:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute toxicity, by inhalation:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitisation:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory tract irritation:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeated dose toxicity:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptoms:</td>
<td>n.d.a.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other toxicity data:</td>
<td>Classification according to calculation procedure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ammonia

<table>
<thead>
<tr>
<th>Toxicity/effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity, by oral route:</td>
<td>LDLo 550</td>
<td>mg/kg</td>
<td>Cat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute toxicity, by oral route:</td>
<td>LDLo 43</td>
<td>mg/kg</td>
<td>Human being</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute toxicity, by inhalation:</td>
<td>LCLo 5000</td>
<td>ppm</td>
<td>Human being</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation:</td>
<td>Corrosive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation:</td>
<td>Rabbit</td>
<td></td>
<td>Risk of serious damage to eyes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitisation:</td>
<td>Guinea pig</td>
<td></td>
<td>Not sensitizing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity:</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity:</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity:</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Sodium chromate

<table>
<thead>
<tr>
<th>Toxicity/effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>respiratory distress, burning of the membranes of the nose and throat, diarrhoea, coughing, cramps, circulatory collapse, gastrointestinal disturbances, mucous membrane irritation, shock, nausea and vomiting.</td>
</tr>
</tbody>
</table>

| Sodium chromate |
|-----------------|----------|-------|------|----------|-------------|-------|
| **Toxicity/effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Symptoms: | | | | | | | |
| Teratogenicity: | | | | | | None |

### SECTION 12: Ecological information

| Cooling media for absorption cooling units |
|-----------------|----------|-------|------|----------|-------------|-------|
| **Toxicity/effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Toxicity to fish: | | | | | | | n.d.a. |
| Toxicity to daphnia: | | | | | | | n.d.a. |
| Toxicity to algae: | | | | | | | n.d.a. |
| Persistence and degradability: | | | | | | | n.d.a. |
| Bioaccumulative potential: | | | | | | | n.d.a. |
| Mobility in soil: | | | | | | | n.d.a. |
| Results of PBT and vPvB assessment | | | | | | | n.d.a. |
| Other adverse effects: | | | | | | | n.d.a. |

| Ammonia |
|-----------------|----------|-------|------|----------|-------------|-------|
| **Toxicity/effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Toxicity to fish: | LC50 | 96h | 0,53 | mg/l | (Oncorhynchus mykiss) | Anhydrous substance |
| Toxicity to daphnia: | EC50 | 48h | 1,16 | mg/l | (Daphnia pulex) | Anhydrous substance |
| Persistence and degradability: | | 28d | <70 | % | | Not readily biodegradable |
| Bioaccumulative potential: | | | | | | Not to be expected |
| Toxicity to bacteria: | EC50 | 5min | 1,16 | mg/l | (Photobacterium phosphoreum) | Anhydrous substance |

| Sodium chromate |
|-----------------|----------|-------|------|----------|-------------|-------|
| **Toxicity/effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Toxicity to fish: | | 52 | mg/l | | | |
| Toxicity to daphnia: | EC50 | 48h | 0,219 | mg/l | (Daphnia magna) | |
| Toxicity to algae: | | 5 | mg/l | | | |
SECTION 13: Disposal considerations

13.1 Waste treatment methods
For the substance / mixture / residual amounts
EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product. Owing to the user’s specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2001/118/EC, 2001/119/EC, 2001/573/EC)
06 02 03 ammonium hydroxide
06 02 99 wastes not otherwise specified
16 02 13 discarded equipment containing hazardous components (2) other than those mentioned in 16 02 09 to 16 02 12
16 02 15 hazardous components removed from discarded equipment
16 05 07 discarded inorganic chemicals consisting of or containing dangerous substances
20 01 35 discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components(6)
Recommendation:
Pay attention to local and national official regulations
E.g. suitable incineration plant.
Recycling
For contaminated packing material
Pay attention to local and national official regulations

SECTION 14: Transport information

General statements
Data for the aggregate incl. refrigerant.
UN number: 2857

Transport by road/by rail (ADR/RID)
UN proper shipping name: < 12l // < 12 kg:
SV 119,UN 2857 REFRIGERATING MACHINES
Transport hazard class(es): 2.2
LQ (ADR 2011): n.a.
Environmental hazards: environmentally hazardous
Tunnel restriction code: E

Transport by sea (IMDG-code)
< 12l // < 12 kg:
SV 119
UN proper shipping name: REFRIGERATING MACHINES
Transport hazard class(es): 2.2
EmS: F-C, S-V
Marine Pollutant: Yes
Environmental hazards: environmentally hazardous

Transport by air (IATA)
Ammonia solution
>= 35% // >= 12 l/kg
UN proper shipping name: Refrigerating machines
Transport hazard class(es): 2.2
Packing group: -

Ammonia solution
< 35% // < 12 kg

Ammonia solution
> 35% - < 50% // < 12kg // < 12 L
A 26 Packing instruction 211
Environmental hazards: Not applicable

**Special precautions for user**
Persons employed in transporting dangerous goods must be trained.
All persons involved in transporting must observe safety regulations.
Precautions must be taken to prevent damage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Freighted as packaged goods rather than in bulk, therefore not applicable.
Minimum amount regulations have not been taken into account.
Danger code and packing code on request.

---

**SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
For classification and labelling see Section 2.
Observe restrictions: Yes
Comply with trade association/occupational health regulations.
Observe regulations on prohibition of chemicals.
Observe law on protection of expectant mothers (German regulation).
Observe youth employment law (German regulation).

15.2 Chemical safety assessment
A chemical safety assessment is not provided for mixtures.

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**SECTION 16: Other information**

These details refer to the product as it is delivered.
Revised sections: 3
The absorption refrigeration aggregate is pressurised with less than 2 mass % H2 (hydrogen gas).
The following statements are the indicated R-phrases / H-phrases and classification codes (GHS/CLP) for the ingredients (listed in Section 3).
21 Harmful in contact with skin.
23 Toxic by inhalation.
25 Toxic if swallowed.
25 Also toxic if swallowed.
26 Very toxic by inhalation.
34 Causes burns.
42/43 May cause sensitization by inhalation and skin contact.
45 May cause cancer.
46 May cause heritable genetic damage.
48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
50 Very toxic to aquatic organisms.
53 May cause long-term adverse effects in the aquatic environment.
60 May impair fertility.
61 May cause harm to the unborn child.
H340 May cause genetic defects.
H360FD May damage fertility. May damage the unborn child.
H301 Toxic if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H334 May cause cancer.
H300 Very toxic to aquatic life.
H372 Causes damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H450 May cause cancer.

Skin Corr.-Skin corrosion
Aquatic Acute-Hazardous to the aquatic environment - acute
Repr.-Reproductive toxicity
Acute Tox.-Acute toxicity - inhalation
Acute Tox.-Acute toxicity - oral
STOT RE-Specific target organ toxicity - repeated exposure
Acute Tox.-Acute toxicity - dermal
Resp. Sens.-Respiratory sensitization
Skin Sens.-Skin sensitization
Aquatic Chronic-Hazardous to the aquatic environment - chronic
Muta.-Germ cell mutagenicity
Carc.-Carcinogenicity

Any abbreviations and acronyms used in this document:

AC Article Categories
cacc., acc. to according, according to
ACGIHAmerican Conference of Governmental Industrial Hygienists
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement
cconcerning the International Carriage of Dangerous Goods by Road)
AOEL Acceptable Operator Exposure Level
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BCF Bioconcentration factor
BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)
BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)
BMGV Biological monitoring guidance value (EH40, UK)
BOD Biochemical oxygen demand
BSEF Bromine Science and Environmental Forum
bw body weight
CAS Chemical Abstracts Service
CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
CIPAC Collaborative International Pesticides Analytical Council
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of
substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
COD Chemical oxygen demand
CTFA Cosmetic, Toiletry, and Fragrance Association
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
DOC Dissolved organic carbon
DT50 Dwell Time - 50% reduction of start concentration
DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)
dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EC European Community
ECHA European Chemicals Agency
EEA European Economic Area
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
EN European Norms
EPA United States Environmental Protection Agency (United States of America)
ERC Environmental Release Categories
ES Exposure scenario
etc. et cetera
EU European Union
EWC European Waste Catalogue
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
Cooling media for absorption cooling units

GWP Global warming potential
HET-CAM Hen's Egg Test - Chorionallantoic Membrane
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC Intermediate Bulk Container
IBC (Code) International Bulk Chemical (Code)
IC Inhibitory concentration
IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCLID International Uniform Chemical Information Database
LC lethal concentration
LC50 lethal concentration 50 percent kill
LCLo lowest published lethal concentration
LD Lethal Dose of a chemical
LD50 Lethal Dose, 50% kill
LDLo Lethal Dose Low
LMBG Lebensmittel- und Bedarfsgegenständegesetz (= Foodstuffs and Commodities Law)
LOAEILowest Observed Adverse Effect Level
LOEC Lowest Observed Effect Concentration
LOEL Lowest Observed Effect Level
LG Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute of Occupational Safety and Health (United States of America)
NOACENo Observed Adverse Effective Concentration
NOAEL No Observed Adverse Effect Level
NOEC No Observed Effect Concentration
NOEL No Observed Effect Level
ODP Ozone Depletion Potential
OECD Organisation for Economic Co-operation and Development
org. organic
PAH polycyclic aromatic hydrocarbon
PBT persistent, bioaccumulative and toxic
PC Chemical product category
PE Polyethylene
PNEC Predicted No Effect Concentration
POCP Photochemical ozone creation potential
ppm parts per million
PROC Process category
PTFE Polytetrafluorethylene
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SADT Self-Accelerating Decomposition Temperature
SAR Structure Activity Relationship
SU Sector of use
SVHC Substances of Very High Concern
Tel. Telephone
ThOD Theoretical oxygen demand
TOC Total organic carbon
TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)
VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
WHO World Health Organization
wwt wet weight
Cooling media for absorption cooling units

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

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