MSDS Compilation - RT-LAMP kit

Vienna Biocenter Core Facilities GmbH
Dr Bohr Gasse 3, 1030, Vienna, Austria

This information is provided for purchasers of RT-LAMP kit 100 reactions and RT-LAMP kit 1000 reactions.

Table 1. Overview of Vienna Biocenter Core Facilities MSDS for RT-LAMP kits

<table>
<thead>
<tr>
<th>Tube</th>
<th>Reagent</th>
<th>MSDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>QE</td>
<td>No 1)</td>
</tr>
<tr>
<td>2A</td>
<td>LAMP mix</td>
<td>No 1)</td>
</tr>
<tr>
<td>3A</td>
<td>SARS-CoV-2 primer mix</td>
<td>No 1)</td>
</tr>
<tr>
<td>4A</td>
<td>Hydroxynaphthol blue dye solution (960 µM)</td>
<td>YES</td>
</tr>
<tr>
<td>5A</td>
<td>Positive control</td>
<td>No 1)</td>
</tr>
<tr>
<td>6A</td>
<td>Control primer mix</td>
<td>No 1)</td>
</tr>
<tr>
<td>7A</td>
<td>LAMP Fluorescent dye</td>
<td>YES</td>
</tr>
</tbody>
</table>

1) Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. Not a hazardous substance or mixture according to EC directives 67/548/EEC or 1999/45/EC.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product Name                      Hydroxy naphthol blue dye solution
CAS No.                           N/A
Product Number                    N/A
Kit name                          RT-LAMP kit
Brand                             Vienna Biocenter Core Facilities GmbH

1.2. Relevant identified uses of the substance or mixture and uses advised against
Recommended use                   This product is for research and development only
Uses advised against              No information available

1.3. Details of the supplier of the safety data sheet
Company                            Vienna Biocenter Core Facilities GmbH
                                        Dr Bohr Gasse 3
                                        1030 Vienna
                                        Austria
Telephone                          +43 1 796 23 24 7000
Email                              contact@vbcf.ac.at

1.4. Emergency telephone number
Emergency Telephone                +43 1 406 43 43

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008
Hazard categories:
- Carcinogenicity: Carc. 2
Specific target organ toxicity - single exposure: STOT SE 3
Hazard Statements:
- Suspected of causing cancer.
- May cause respiratory irritation

2.2. Label elements
Regulation (EC) No. 1272/2008
Hazard components for labelling
- Hydroxynaphthol
Signal word: Warning

Pictograms:

Hazard statements
- H335 May cause respiratory irritation
- H351 Suspected of causing cancer.

Precautionary statements
- P201 Obtain special instructions before use.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Additional advice on labelling
The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards
None known

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydroxynaphtholblue, Free Acid</td>
<td></td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>CAS No.: 29120-26-1</td>
<td>Carc. 2, STOT SE 3; H351 H335</td>
<td></td>
</tr>
</tbody>
</table>

Full text of H and EUH statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

General information
Take off contaminated clothing and shoes immediately.
Show this safety data sheet to the doctor in attendance

Inhalation
Remove to fresh air.
If symptoms persist, call a physician.

Eye contact
Rinse thoroughly with plenty of water for at least 15 minutes.
Consult a physician.

Skin contact
Wash off immediately with plenty of water for at least 15 minutes.
Take off all contaminated clothing immediately.
If skin irritation persists, call a physician.

Ingestion
Clean mouth with water and drink afterwards plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms
Irritating to respiratory system.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.

Unsuitable Extinguishing Media
No limit.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical
Fire may liberate hazardous vapours.

5.3. Advice for firefighters
In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.
In the event of fire, wear self-contained breathing apparatus.
In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

Additional information
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas. Do not breathe vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

6.2. Environmental precautions
Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

6.4. Reference to other sections
See section 13 for disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
Use only in well-ventilated areas. Avoid contact with skin and eyes. Do not breathe vapours/dust.

Advice on protection against fire and explosion
See also section 5

Further information on handling
Avoid contact with skin, eyes and clothing.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep in a dry, cool place

Hints on joint storage
None known.

Further information on storage conditions
Keep locked up or in an area accessible only to qualified or authorised persons.

7.3. Specific end use(s)
Reagent for research and development

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Additional advice on limit values
None known

8.2. Exposure controls
Appropriate engineering controls
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Protective and hygiene measures
The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Wash hands before breaks and after work.

Eye/face protection
Safety glasses with side-shields
Hand protection
Use barrier skin cream.
Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:
Gloves material: Viton, Layer thickness: 0,70 mm, Breakthrough time: >480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

Skin protection
Remove and wash contaminated clothing before re-use.

Respiratory protection
Avoid breathing dust or vapour.
Provide adequate ventilation.

Environmental exposure controls
Should not be released into the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>crystalline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>blue green</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
</tbody>
</table>

pH-Value (at 20 °C): 1 (5 % solution)

Changes in the physical state
Melting point: >300 °C
Initial boiling point and boiling range: not applicable
Sublimation point: not applicable
Softening point: not applicable
Pour point: no data available
Flash point: not applicable
Sustaining combustion: No data available

Flammability
Solid: not applicable
Gas: not applicable

Explosive properties
Not applicable

Lower explosion limits: not applicable
Upper explosion limits: not applicable
Ignition temperature: not applicable

Auto-ignition temperature
Solid: not applicable
Gas: not applicable

Decomposition temperature: no data available

Oxidizing properties
Not applicable

Vapour pressure: not applicable
Vapour pressure: no data available
Density (at 20 °C): 1,44 g/cm³
Bulk density: no data available
Water solubility: 44 g/L
(at 20 °C)

Solubility in other solvents
no data available

Partition coefficient: not applicable
Viscosity / dynamic: not applicable
Viscosity / kinematic: not applicable
Flow time: not applicable
Vapour density: not applicable
Evaporation rate: not applicable
Solvent separation test: not applicable
Solvent content: not applicable

9.2. Other information
Solid content: not applicable
no data available
SECTION 10: Stability and reactivity

10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4. Conditions to avoid
Extremes of temperature and direct sunlight.

10.5. Incompatible materials
None known based on information supplied.

10.6. Hazardous decomposition products
No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicokinetics, metabolism and distribution
No toxicology information is available.

Acute toxicity
No data is available on the product itself.

Irritation and corrosivity
No known effect.

Sensitising effects
No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction
H351 - Suspected of causing cancer.

STOT-single exposure
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT-repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
No aspiration toxicity classification

Specific effects in experiment on an animal
No data is available on the product itself.

Additional information on tests
None known.

Practical experience

Observations relevant to classification
None known.

Other observations
None known.

Further information
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1. Toxicity
No data is available on the product itself.

Do not flush into surface water or sanitary sewer system.

12.2. Persistence and degradability
No data is available on the product itself

12.3. Bioaccumulative potential
No data is available on the product itself.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
No data available.

12.6. Other adverse effects
No known effect

Further information
No known effect.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations
In accordance with local and national regulations.
Dispose of in accordance with the European Directives on waste and hazardous waste.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

Land transport (ADR/RID)
Not subject to transport regulations.
Other applicable information (land transport)

Inland waterways transport (ADN)
Other applicable information (inland waterways transport)
Not tested

Marine transport (IMDG)
Other applicable information (marine transport)
Not subject to transport regulations.

Air transport (ICAO-TI/IATA-DGR)
Other applicable information (air transport)
Not subject to transport regulations.

14.5. Environmental hazards
ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user
no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
not applicable

Other applicable information
Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulatory information
Water hazard class (D): 3 - strongly hazardous to water

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

SECTION 16: Other information

Relevant H and EUH statements (number and full text)
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.

Further Information
The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

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

1.1. Product identifier
Product Name: LAMP Fluorescent dye
Product Number: N/A
Kit name: RT-LAMP kit
Brand: Vienna Biocenter Core Facilities GmbH

1.2. Relevant identified uses of the substance or mixture and uses advised against
Recommended use: This product is for research and development only
Uses advised against: No information available

1.3. Details of the supplier of the safety data sheet
Company: Vienna Biocenter Core Facilities GmbH
Dr Bohr Gasse 3
1030 Vienna
Austria
Telephone: +43 1 796 23 24 7000
Email: contact@vbcf.ac.at

1.4. Emergency telephone number
Emergency Telephone: +43 1 406 43 43

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No.1272/2008
Chronic aquatic toxicity Category 3 - (H412)

2.2. Label elements
Hazard statements
H412 - Harmful to aquatic life with long lasting effects
EUH210 - Safety data sheet available on request

Precautionary statements - EU (§28, 1272/2008)
P273 - Avoid release to the environment
P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other hazards
Other hazards: Harmful to aquatic life

SECTION 3: Composition/information on ingredients

3.1 Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>EC No</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Classification according to Regulation (EC) No.1272/2008 [CLP]</th>
<th>REACH registration number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethly Sulfoxide</td>
<td>200-664-3</td>
<td>67-68-5</td>
<td>60 - 100</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Full text of H and EUH statements: see section 16
SECTION 4: First-aid measures

4.1. Description of first aid measures

Inhalation                  Remove to fresh air.
Eye contact                Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact               Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion                  Clean mouth with water and drink afterwards plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms                   No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians         Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

5.3. Advice for firefighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions         Ensure adequate ventilation.
For emergency responders     Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions     See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment      Prevent further leakage or spillage if safe to do so.
Methods for cleaning up      Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections  See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage
7.1. Precautions for safe handling

Advice on safe handling
Ensure adequate ventilation.

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Identified Uses
Risk management methods [RMM]
The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>European Union</th>
<th>United Kingdom</th>
<th>France</th>
<th>Spain</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl Sulfoxide 67-68-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TWA: 50 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TWA: 160 mg/m3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Italy</th>
<th>Portugal</th>
<th>Netherlands</th>
<th>Finland</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl Sulfoxide 67-68-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TWA: 50 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Iho* TWA: 160 mg/m3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Austria</th>
<th>Switzerland</th>
<th>Poland</th>
<th>Norway</th>
<th>Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl Sulfoxide 67-68-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TWA: 50 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STEL: 100 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STEL: 320 mg/m3</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TWA: 50 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TWA: 160 mg/m3</td>
</tr>
</tbody>
</table>

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin and body protection
Wear suitable protective clothing.

Respiratory protection
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls
No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odour</td>
<td>Mild</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
</tbody>
</table>
### Property Values

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks / Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Upper flammability or explosive</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower flammability or explosive</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>215 °C</td>
<td></td>
</tr>
<tr>
<td>Hyphen</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>9.2. Other information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Softening point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>VOC Content (%)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Liquid Density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Bulk density</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity: No information available.

10.2. Chemical stability

Stability: Stable under normal conditions.

Explosion data

- Sensitivity to mechanical impact: None.
- Sensitivity to static discharge: None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions: None under normal processing.

10.4. Conditions to avoid

Conditions to avoid: None known based on information supplied.

10.5. Incompatible materials

Incompatible materials: None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products: None known based on information supplied.

### SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

- Inhalation: Specific test data for the substance or mixture is not available.
- Eye contact: Specific test data for the substance or mixture is not available.
Skin contact: Specific test data for the substance or mixture is not available.

Ingestion: Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms: No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document:

ATEmix (oral) 28,300.00 mg/kg

Unknown acute toxicity:
- 100 % of the mixture consists of ingredient(s) of unknown toxicity.
- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
- 100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Toxicity

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethly Sulfoxide</td>
<td>= 28300 mg/kg (Rat)</td>
<td></td>
<td>&gt; 5.33 mg/L (Rat) 4 h</td>
</tr>
</tbody>
</table>

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation: No information available.

Serious eye damage/eye irritation: No information available.

Respiratory or skin sensitization: No information available.

Germ cell mutagenicity: No information available.

Carcinogenicity: No information available.

Reproductive toxicity: No information available.

STOT - single exposure: No information available.

STOT - repeated exposure: No information available.

Aspiration hazard: No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity: Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity: Contains 0 % of components with unknown hazards to the aquatic environment.

Product Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethly Sulfoxide</td>
<td>-</td>
<td>LC50: 33 - 37g/L (96h, Oncorhynchus mykiss) LC50: =34000mg/L (96h, Pimephales promelas) LC50: =41.7g/L (96h, Cyprinus carpio) LC50: &gt;40g/L (96h, Lepomis macrochirus)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

Persistence and degradability: No information available.

12.3. Bioaccumulative potential
Bioaccumulation

There is no data for this product.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl Sulfoxide</td>
<td>-2.03</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>PBT and vPvB assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl Sulfoxide</td>
<td>The substance is not PBT / vPvB PBT assessment does not apply</td>
</tr>
</tbody>
</table>

12.6. Other adverse effects

Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

SECTION 14: Transport information

IMDG

| 14.1 UN number or ID number | Not regulated         |
| 14.2 Proper shipping name  | Not regulated         |
| 14.3 Transport hazard class(es) | Not regulated       |
| 14.4 Packing group         | Not regulated         |
| 14.5 Marine pollutant      | Not applicable        |
| 14.6 Special Provisions    | None                  |
| 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code | No information available |

RID

| 14.1 UN number or ID number | Not regulated         |
| 14.2 Proper shipping name  | Not regulated         |
| 14.3 Transport hazard class(es) | Not regulated       |
| 14.4 Packing group         | Not regulated         |
| 14.5 Environmental hazard  | Not applicable        |
| 14.6 Special Provisions    | None                  |

ADR

| 14.1 UN number or ID number | Not regulated         |
| 14.2 Proper shipping name  | Not regulated         |
| 14.3 Transport hazard class(es) | Not regulated       |
| 14.4 Packing group         | Not regulated         |
| 14.5 Environmental hazard  | Not applicable        |
| 14.6 Special Provisions    | None                  |

IATA

| 14.1 UN number or ID number | Not regulated         |
| 14.2 Proper shipping name  | Not regulated         |
| 14.3 Transport hazard class(es) | Not regulated       |
| 14.4 Packing group         | Not regulated         |
14.5 Environmental hazard: Not applicable
14.6 Special Provisions: None

SECTION 15: Regulatory information

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

National regulations
France
Occupational illnesses (R-463-3, France)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>French RG number</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethly Sulfoxide</td>
<td>RG 84</td>
<td>RG 84</td>
</tr>
</tbody>
</table>

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorizations and/or restrictions on use:
This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants
Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009: Not applicable

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Contact supplier for inventory compliance status</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Contact supplier for inventory compliance status</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Contact supplier for inventory compliance status</td>
</tr>
<tr>
<td>ENCS</td>
<td>Contact supplier for inventory compliance status</td>
</tr>
<tr>
<td>IECSC</td>
<td>Contact supplier for inventory compliance status</td>
</tr>
<tr>
<td>KECL</td>
<td>Contact supplier for inventory compliance status</td>
</tr>
<tr>
<td>PICCS</td>
<td>Contact supplier for inventory compliance status</td>
</tr>
<tr>
<td>AICS</td>
<td>Contact supplier for inventory compliance status</td>
</tr>
</tbody>
</table>

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report: No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSOAL PROTECTION

<table>
<thead>
<tr>
<th>TWA</th>
<th>TWA (time-weighted average)</th>
<th>STEL</th>
<th>STEL (Short Term Exposure Limit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling</td>
<td>Maximum limit value</td>
<td>*</td>
<td>Skin designation</td>
</tr>
</tbody>
</table>

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
Disclaimer

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