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

1.1 Product identifier

Identification of the substance

Methanol

Registration number (REACH)

01-211943307-44-xxxx

EC number

200-659-6

CAS number

67-56-1

Alternative name(s)

Methanol

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

Relevant identified uses

Professional use

Industrial use

See attached exposure scenarios

1.3 Details of the supplier of the safety data sheet

BioMethanol Chemie Nederland B.V. (BioMCN)

Oosterhorn 10

9936 HD Farmsum

251

Netherlands

Telephone: +31 (0) 88 664 7700

e-mail: info@biomcn.eu

Website: http://www.biomcn.eu/

e-mail (competent person) info@biomcn.eu

1.4 Emergency telephone number

Emergency information service

+31 (0) 88 664 7700

This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

Poison centre

<table>
<thead>
<tr>
<th>Country</th>
<th>Name</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (NPIS) (medical professionals only)</td>
<td>0344-8920111</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>NHS (general public)</td>
<td>non-emergency: 111 or a doctor; emergency: 999</td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

<table>
<thead>
<tr>
<th>Section</th>
<th>Hazard class</th>
<th>Category</th>
<th>Hazard class and category</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.6</td>
<td>flammable liquid</td>
<td>2</td>
<td>Flam. Liq. 2</td>
<td>H225</td>
</tr>
<tr>
<td>3.1O</td>
<td>acute toxicity (oral)</td>
<td>3</td>
<td>Acute Tox. 3</td>
<td>H301</td>
</tr>
<tr>
<td>3.1D</td>
<td>acute toxicity (dermal)</td>
<td>3</td>
<td>Acute Tox. 3</td>
<td>H311</td>
</tr>
<tr>
<td>3.11</td>
<td>acute toxicity (inhal.)</td>
<td>3</td>
<td>Acute Tox. 3</td>
<td>H331</td>
</tr>
<tr>
<td>3.8</td>
<td>specific target organ toxicity - single exposure</td>
<td>1</td>
<td>STOT SE 1</td>
<td>H370</td>
</tr>
</tbody>
</table>
For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects
Immediate effects can be expected after short-term exposure. The product is combustible and can be ignited by potential ignition sources.

Additional information
According to the results of its assessment, this substance is not a PBT or a vPvB.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 (CLP)
- signal word danger
- pictograms GHS02, GHS06, GHS08

- hazard statements
  H225 Highly flammable liquid and vapour.
  H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.
  H370 Causes damage to organs (eye, heart, brain, liver, central nervous system).

- precautionary statements
  P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  P241 Use explosion-proof electrical/ventilating/lighting/tooling/equipment.
  P260 Do not breathe mist/vapours/spray.
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/... 
  P303+P361+P353 IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.
  P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  P403+P235 Store in a well-ventilated place. Keep cool.
  P501 Dispose of contents/container to ...

2.3 Other hazards
Results of PBT and vPvB assessment
According to the results of its assessment, this substance is not a PBT or a vPvB. According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances
Name of substance methanol
Identifiers
REACH Reg. No 01-2119433307-44-xxxx
CAS No 67-56-1
EC No 200-659-6
Index No 603-001-00-X
Purity 100 %
Molecular formula CH4O
Molar mass 32.04 g/mol
Structural formula
Remarks
All the percentages given are percentages by weight unless stated otherwise.

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
Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus. Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact
Take off immediately all contaminated clothing. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.

Following eye contact
Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart.

Following ingestion
Rinse mouth with water (only if the person is conscious). Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. Call a POISON CENTER or doctor if you feel unwell.

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
For specialist advice physicians should contact the anti poison control centre. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Alcohol resistant foam. Dry extinguishing powder. Carbon dioxide (CO2). Foam.

Unsuitable extinguishing media
Water jet.

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

Hazardous combustion products
During fire hazardous fumes/smoke could be produced, Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.
Special protective equipment for firefighters
Self-contained breathing apparatus (SCBA), Standard protective clothing for firefighters

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
For non-emergency personnel
Follow emergency procedures such as the need to evacuate the danger area or to consult an expert. Remove persons to safety. Warning and evacuating people in the neighbourhood. Ventilate affected area. Control of dust. Keep away from sources of ignition - No smoking.

For emergency responders
Wear breathing apparatus if exposed to vapours/dust/spray/gases. Use personal protective equipment as required.

6.2 Environmental precautions
Keep away from drains, surface and ground water. Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up
Advises on how to contain a spill
Covering of drains

Advises on how to clean up a spill
Wipe up with absorbent material (e.g. cloth, fleece).

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Recommendations
- measures to prevent fire as well as aerosol and dust generation
Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools.

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

Advice on general occupational hygiene
Wash hands after use. Do not to eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.
7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks
- explosive atmospheres
  Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.
- flammability hazards
  Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.
- incompatible substances or mixtures
  Observe hints for combined storage. Incompatible materials: see section 10.

Control of effects

Protect against external exposure, such as
  High temperatures, UV-radiation/sunlight, Static discharges

Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

- ventilation requirements
  Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation. Ground/bond container and receiving equipment.

- packaging compatibilities
  Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

There is no additional information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of agent</th>
<th>CAS No</th>
<th>Identifier</th>
<th>TWA [ppm]</th>
<th>TWA [mg/m³]</th>
<th>STEL [ppm]</th>
<th>STEL [mg/m³]</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>methanol</td>
<td>67-56-1</td>
<td>IOELV</td>
<td>200</td>
<td>260</td>
<td></td>
<td></td>
<td>2006/15/EC</td>
</tr>
<tr>
<td>GB</td>
<td>methanol</td>
<td>67-56-1</td>
<td>WEL</td>
<td>200</td>
<td>266</td>
<td>250</td>
<td>333</td>
<td>EH40/2005</td>
</tr>
</tbody>
</table>

Notation

- STEL: short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified
- TWA: time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

Relevant DNELs/DMELs/PNECs and other threshold levels

<table>
<thead>
<tr>
<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>DNEL</td>
<td>260 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>260 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>260 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - local effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>260 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - local effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>40 mg/kg bw/day</td>
<td>human, dermal</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
</tbody>
</table>
General ventilation.

Use safety goggle with side protection. (EN 166).

Relevant DNELs and other threshold levels

<table>
<thead>
<tr>
<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>DNEL</td>
<td>40 mg/kg bw/day</td>
<td>human, dermal</td>
<td>worker (industry)</td>
<td>acute - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>50 mg/m³</td>
<td>human, inhalatory</td>
<td>consumer (private households)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>50 mg/m³</td>
<td>human, inhalatory</td>
<td>consumer (private households)</td>
<td>acute - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>50 mg/m³</td>
<td>human, inhalatory</td>
<td>consumer (private households)</td>
<td>chronic - local effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>8 mg/kg bw/day</td>
<td>human, dermal</td>
<td>consumer (private households)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>8 mg/kg bw/day</td>
<td>human, dermal</td>
<td>consumer (private households)</td>
<td>acute - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>8 mg/kg bw/day</td>
<td>human, oral</td>
<td>consumer (private households)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>8 mg/kg bw/day</td>
<td>human, oral</td>
<td>consumer (private households)</td>
<td>acute - systemic effects</td>
</tr>
</tbody>
</table>

Relevant PNECs and other threshold levels

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Organism</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC</td>
<td>100 mg/l</td>
<td>microorganisms</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>77 mg/kg</td>
<td>benthic organisms</td>
<td>sediments</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>7.7 mg/kg</td>
<td>pelagic organisms</td>
<td>sediments</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>20.8 mg/l</td>
<td>aquatic organisms</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>2.08 mg/l</td>
<td>aquatic organisms</td>
<td>marine water</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>1,540 mg/l</td>
<td>aquatic organisms</td>
<td>water</td>
<td>continuous</td>
</tr>
<tr>
<td>PNEC</td>
<td>100 mg/l</td>
<td>aquatic organisms</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>77 mg/kg</td>
<td>aquatic organisms</td>
<td>freshwater sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>7.7 mg/kg</td>
<td>aquatic organisms</td>
<td>marine sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>100 mg/kg</td>
<td>terrestrial organisms</td>
<td>soil</td>
<td>short-term (single instance)</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Use safety goggle with side protection. (EN 166).
Skin protection

- Protective clothing (EN 340).

- hand protection

Wear suitable gloves. 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. Chemical protection gloves are suitable, which are tested according to EN 374. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- type of material
  Butyl rubber

- material thickness
  ≥ 0.7 mm

- breakthrough times of the glove material
  >480 minutes (permeation: level 6)

- 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. Self-contained breathing apparatus (EN 133).

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

Other safety parameters

<table>
<thead>
<tr>
<th>pH (value)</th>
<th>not determined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/freezing point</td>
<td>-97.8 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>64.7 °C at 1,013 hPa</td>
</tr>
<tr>
<td>Flash point</td>
<td>9.7 °C at 1,013 hPa</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>not relevant (fluid)</td>
</tr>
</tbody>
</table>
 Explosive limits

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>lower explosion limit (LEL)</td>
<td>4.4 vol%</td>
</tr>
<tr>
<td>upper explosion limit (UEL)</td>
<td>38.5 vol%</td>
</tr>
</tbody>
</table>

 Vapour pressure

- 169.3 hPa at 25 °C

 Density

- 795 kg/m³ at 15 °C

 Vapour density

- this information is not available

 Solubility(ies)

- water solubility

- 1,000 g/l at 20 °C

 Partition coefficient

- n-octanol/water (log KOW)

- -0.77 (ECHA)

- soil organic carbon/water (log KOC)

- 0.13 - 1

 Auto-ignition temperature

- 455 °C (ECHA)

 Viscosity

- dynamic viscosity

- 0.544 - 0.59 mPa s at 25 °C

 Explosive properties

- none

 Oxidising properties

- none

 **9.2 Other information**

 Of no significance.

 **SECTION 10: Stability and reactivity**

 **10.1 Reactivity**

- It's a reactive substance. The mixture contains reactive substance(s). Risk of ignition.

 If heated:

- Risk of ignition

 **10.2 Chemical stability**

- See below "Conditions to avoid".

 **10.3 Possibility of hazardous reactions**

- No known hazardous reactions.

 **10.4 Conditions to avoid**

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from heat.
Hints to prevent fire or explosion
Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

10.5 Incompatible materials
Oxidisers, Sodium, Magnesium

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

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

Acute toxicity
Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

<table>
<thead>
<tr>
<th>Exposure route</th>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>inhalation: vapour</td>
<td>LC50</td>
<td>128,200 mg/m³/4h</td>
<td>rat</td>
</tr>
<tr>
<td>inhalation: vapour</td>
<td>LC50</td>
<td>85,400 mg/l/4h</td>
<td>cat</td>
</tr>
<tr>
<td>dermal</td>
<td>LD50</td>
<td>17,100 mg/kg</td>
<td>rabbit</td>
</tr>
<tr>
<td>oral</td>
<td>LD50</td>
<td>&gt;7 mg/kg</td>
<td>monkey</td>
</tr>
<tr>
<td>oral</td>
<td>LD50</td>
<td>&gt;1,187 mg/kg</td>
<td>rat</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation
Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation
Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity
Shall not be classified as germ cell mutagenic.

Carcinogenicity
Shall not be classified as carcinogenic.

Reproductive toxicity
Shall not be classified as a reproductive toxicant.
Fertility:
NOAEC (Rat) = 1.3 mg/L
NOAEC (Monkey) = 2.39 mg/L
NOAEL(Oral) Sperm = 1000 mg/kg bw/day
Developmental Toxicity:
NOAEC (Rat) = 1.33 mg/L
LOAEL (Mouse) = 1700 mg/kg
Developmental Toxicity:
NOAEC (Rat, Mouse) = 1.33 mg/L
LOAEL(Mouse) = 5000 mg/kg.
Specific target organ toxicity - single exposure
Causes damage to organs (eye, heart, brain, liver, central nervous system). Exposure route: Oral. Inhalation.

<table>
<thead>
<tr>
<th>Hazard category</th>
<th>Target organ</th>
<th>Exposure route</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>eye</td>
<td>if swallowed</td>
</tr>
<tr>
<td>1</td>
<td>heart</td>
<td>if inhaled</td>
</tr>
<tr>
<td>1</td>
<td>brain</td>
<td>if inhaled</td>
</tr>
<tr>
<td>1</td>
<td>liver</td>
<td>if inhaled</td>
</tr>
<tr>
<td>1</td>
<td>central nervous system</td>
<td>if swallowed</td>
</tr>
</tbody>
</table>

Specific target organ toxicity - repeated exposure
Shall not be classified as a specific target organ toxicant (repeated exposure).

<table>
<thead>
<tr>
<th>Exposure route</th>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral</td>
<td>LOAEL</td>
<td>2,340 mg/kg</td>
<td>not specified</td>
<td>3d</td>
</tr>
<tr>
<td>inhalation: vapour</td>
<td>NOAEL</td>
<td>13 mg/m³</td>
<td>not specified</td>
<td>7mth</td>
</tr>
</tbody>
</table>

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

Absorption, metabolism, distribution and excretion studies
Rapidly metabolised.
Metabolised to the following: Formaldehyde. Metabolised to the following: water, Carbon dioxide (CO).
Metabolised before excretion. Excreted to the air during respiration.

SECTION 12: Ecological information

12.1 Toxicity
Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
<th>Exposure time</th>
</tr>
</thead>
</table>

Biodegradation
The substance is readily biodegradable. The relevant substances of the mixture are readily biodegradable.
12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Process</th>
<th>Degradation rate</th>
<th>Time</th>
<th>Source</th>
</tr>
</thead>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>n-octanol/water (log KOW)</th>
<th>-0.77 (ECHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF</td>
<td>&lt;10 (&lt;10)</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Data are not available.

<table>
<thead>
<tr>
<th>Henry's law constant</th>
<th>0.461 Pa m³/mol at 25 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Organic Carbon normalised adsorption coefficient</td>
<td>0.13 - 1</td>
</tr>
</tbody>
</table>

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Endocrine disrupting potential
Not listed.
Solvent reclamation/regeneration.

Do not empty into drains. Avoid release to the environment.

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks
Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number
1230

14.2 UN proper shipping name
METHANOL

14.3 Transport hazard class(es)
Class
3 (flammable liquids)
Subsidiary risk(s)
6.1 (acute toxicity)

14.4 Packing group
II (substance presenting medium danger)

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

14.6 Special precautions for user
Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code
No data available.

Information for each of the UN Model Regulations

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

<table>
<thead>
<tr>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Class</th>
<th>Classification code</th>
<th>Packing group</th>
<th>Danger label(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1230</td>
<td>METHANOL</td>
<td>3</td>
<td>FT1</td>
<td>II</td>
<td>3+6.1</td>
</tr>
</tbody>
</table>

Special provisions (SP) 279, 802(ADN)
Excepted quantities (EQ) E2
Limited quantities (LQ) 1 L
Transport category (TC) 2
Tunnel restriction code (TRC) D/E
Hazard identification No 336
Emergency Action Code 2WE

**International Maritime Dangerous Goods Code (IMDG)**
- UN number: 1230
- Proper shipping name: METHANOL
- Class: 3
- Subsidiary risk(s): 6.1
- Packing group: II
- Danger label(s): 3+6.1

**Special provisions (SP)** 279
- Excepted quantities (EQ): E2
- Limited quantities (LQ): 1 L
- EmS: F-E, S-D
- Stowage category: B

**International Civil Aviation Organization (ICAO-IATA/DGR)**
- UN number: 1230
- Proper shipping name: Methanol
- Class: 3
- Subsidiary risk(s): 6.1
- Packing group: II
- Danger label(s): 3

**Special provisions (SP)** A104, A113
- Excepted quantities (EQ): E2
- Limited quantities (LQ): 1 L

**SECTION 15: Regulatory information**

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

**Relevant provisions of the European Union (EU)**

**Restrictions according to REACH, Annex XVII**
- not listed

**List of substances subject to authorisation (REACH, Annex XIV)**
- not listed none of the ingredients are listed
For this substance a chemical safety assessment has been carried out.

### Seveso Directive

<table>
<thead>
<tr>
<th>No</th>
<th>Dangerous substance/hazard categories</th>
<th>Qualifying quantity (tonnes) for the application of lower and upper-tier requirements</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>methanol</td>
<td>500 5,000</td>
<td></td>
</tr>
</tbody>
</table>

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

not listed

Regulation 98/2013/EU on the marketing and use of explosives precursors

not listed

### 15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has been carried out.

### SECTION 16: Other information

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

Complete revision of the safety data sheet.

#### Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>BCF</td>
<td>BioConcentration Factor</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
</tr>
<tr>
<td>DMEL</td>
<td>Derived Minimal Effect Level</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No-Effect Level</td>
</tr>
<tr>
<td>EC No</td>
<td>The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European List of Notified Chemical Substances</td>
</tr>
<tr>
<td>EmS</td>
<td>Emergency Schedule</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>
</tbody>
</table>
Methanol

Applicable regulations:
- Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).
- International Maritime Dangerous Goods Code (IMDG).
- Dangerous Goods Regulations (DGR) for the air transport (IATA).

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

### Abbreviations

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>index No</td>
<td>the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008</td>
</tr>
<tr>
<td>IOELV</td>
<td>indicative occupational exposure limit value</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>NLP</td>
<td>No-Longer Polymer</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No-Effect Concentration</td>
</tr>
<tr>
<td>ppm</td>
<td>parts per million</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)</td>
</tr>
<tr>
<td>STEL</td>
<td>short-term exposure limit</td>
</tr>
<tr>
<td>TWA</td>
<td>time-weighted average</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>WEL</td>
<td>workplace exposure limit</td>
</tr>
</tbody>
</table>

### Key literature references and sources for data


### 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>H225</td>
<td>highly flammable liquid and vapour</td>
</tr>
<tr>
<td>H301</td>
<td>toxic if swallowed</td>
</tr>
<tr>
<td>H311</td>
<td>toxic in contact with skin</td>
</tr>
<tr>
<td>H331</td>
<td>toxic if inhaled</td>
</tr>
<tr>
<td>H370</td>
<td>causes damage to organs (eye, heart, brain, liver, central nervous system)</td>
</tr>
</tbody>
</table>

### Disclaimer

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