

SAFETY DATA SHEET



In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Revision date: 2018.03.31

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SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name: Methanol

Chemical name: Methanol

Identification number in accordance with Regulation (EC) No. 1272/2008: 603-001-00-X

EC No.: 200-659-6

CAS number: 67-56-1

REACH registration no: 01-2119433307-44-XXXX.

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

1.2.1 Uses:

Industrial uses:

1. Industrial use [SU3, SU8, SU9]: production / use of the substance as an intermediate product / use as a raw material of chemical processes (PC not specified);
2. Industrial use [SU3, SU8, SU9]: Distribution of the material (PC not specified);
3. Industrial use [SU3, SU10]: Formulation, packaging, repackaging of the substance or mixture (PC not specified);
4. Industrial use [SU3]: Use as fuel - in industry (PC not specified);
6. Industrial use [SU3]: Use as laboratory reagent - in industry (PC not specified);
8. Industrial use [SU3]: Use in industrial wastewater cleaning processes (PC not specified).

Professional use:

5. Professional use [SU22]: Use as fuel - in a professional area (PC not specified);
7. Professional use [SU3]: Use as a laboratory reagent - in the professional field (PC not specified);
9. Professional use [SU22]: Industrial use in the oil industry (PC not specified).

Further consumer use:

10. Further consumer use [SU21]: Further consumer usage for ice melting (liquid products) (PC4, PC35);
11. Further consumer use [SU21]: Further consumer usage for ice (spray products) (PC4, PC35);
12. Further consumer use [SU21]: Further consumer usage as fuel in enclosed spaces (fuel component, etc.) (PC13);
13. Further consumer use [SU21]: Further consumer usage as Fuel in open Systems (as an addition to gasoline) (Not Specified on PC).

1.2.2 Uses advised against: none.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Company name: AB Achema

Full address: Jonalaukio k., Ruklos sen., LT55550

Phone: +370 349 56465, 52074

URL website: www.achema.lt

Person responsible for the Safety Data Sheet (with e-mail address): Darius Sparnauskas, d.sparnauskas@achema.com.

1.4 Emergency telephone number

Please contact: Poison Control and Information Office in the Republic of Lithuania by phone +370 (5) 2362052 or the General Help Center 112.

Helpdesk services work: 24 hours a day, 365 days a year.

SECTION 2. HAZARDS IDENTIFICATION

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2.1 Classification of the substance
2.1.1 Classification in accordance with Regulation 1272/2008 (CLP):

Flam. Liq. 2, H225,
Acute Tox. 3, H301,
Acute Tox. 3, H311,
Acute Tox. 3, H331,
STOT SE 1, H370.

2.2 Label elements
2.2.1 Labeling in accordance with Regulation 1272/2008 (CLP):

Hazard pictogram(s):



Signal word: DAGER

Hazard statement(s):

H225 – Highly flammable liquid and vapor.
H331 – Toxic if inhaled.
H311 – Toxic in contact with skin.
H301 – Toxic if swallowed.
H370 – Causes damage to organs.

Precautionary statement(s):

P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P243 – Take precautionary measures against static discharge.
P260 – Do not breathe dust/fume/gas/mist/vapors/spray.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P304+P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P303+P361+P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P403+P235 – Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405 – Store locked up.

2.3 Other hazards

Not considered to be a PBT. According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS
3.1 Materials

According to the REACH Regulation the product is treated as a single material.

CAS no.	Identification no. in accordance with Regulation (EC) No. 1272/2008	Chemical substance name	IUPAC name	EC No.
67-56-1	603-001-00-X	Methanol	≥ 99,85	200-659-6

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SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

4.1.1. General information.

If the clothes are contaminated with the product, immediately remove them. First-aid workers must be sure of their own safety before providing assistance.

The material can get through: the respiratory tract, in contact with skin, eyes, ingestion.

4.1.2. Inhalation: remove casualty to fresh air and keep at rest. Seek medical advice immediately.

4.1.3. Skin contact: Seek medical advice immediately. Immediately wash thoroughly with soap and water.

4.1.4. Eye contact: If contact is made with the eyes, wash affected eyes for at least 15 minutes under running water with eyelids held open. Urgently call for medical assistance.

4.1.5. Ingestion: Rinse mouth immediately and then drink plenty of water and induce vomiting. Seek medical advice immediately. Administer 50 ml of pure ethanol in a drinkable concentration.

4.2 Most important symptoms and effects (acute and delayed)

Acute effects: Toxic in contact with skin. Toxic if inhaled. Toxic if swallowed. Causes damage to organs (central nervous system, optic nerve). Methanol – a strong poison, especially in the nervous system and blood vessels. A person who drank 5-10 ml of methanol gets poisoned, and from 30 ml and more – dies. After ingestion, nausea may begin immediately, but the first symptoms may also occur only after a few hours. In severe cases, deep, severe breathing, seizures, weak, pulmonary congestion, no pupil reactions, gastrointestinal symptoms, headache, blurred vision and disturbed vision may be noticed. Can become completely blind. Breathing methanol vapors may cause dizziness, glare in the eyes, headache, torture of insomnia, increased fatigue, stomach upsets or intestine disruptions, may reduce eyesight.

Delayed effects: The symptoms mentioned above may occur after several hours.

4.3 Indication of any immediate medical attention and special treatment needed

Note to physician: Treatment: symptomatic treatment (deactivation of methanol, gastric lavage of the victim, vital function support).

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable: water, carbon dioxide, alcohol-resistant foam.

Not suitable: none known.

5.2 Special hazards arising from the substance or mixture

Carbon monoxide, carbon dioxide. The substances/groups of substances mentioned can be released in case of fire.

5.3 Advice for firefighters

Special protective equipment: Wear self-contained breathing apparatus and chemical-protective clothing.

Further information: collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. If exposed to fire, keep containers cool by spraying with water.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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6.1 Personal precautions, protective equipment and emergency procedures

6.1.1. For personnel not involved in emergency situations: Avoid any direct contact with the product: do not ingest, do not exposure to the eyes, skin or clothing. Remove contaminated clothing immediately. Wear chemical protective clothing, rubber gloves, eye-protecting lenses, face protection (safety shields) (for information on individual protective equipment see sub-section 8.2 of this SDS) in the workplace. Use local exhaust ventilation (in enclosed spaces). Equipment, apparatus and pipelines must be tight, filling and discharging equipment must be well sealed. Efficiently ventilate the place where the product was spilled, collected and neutralized, to influence the dispersion of methanol vapors. Do not inhale vapor. In the event of higher leakage, precipitate / neutralize vapor clouds with the help of water flow and isolate the leakage source as soon as possible. See also section 8 of this SDS.

6.1.2. For the personnel involved in emergency situations: avoid any direct contact with the product: do not ingest, do not exposure to the eyes, skin or clothing. Remove contaminated clothing immediately. Wear self-contained breathing apparatus and fully covering chemical resistant protective clothing, chemical resistant protective boots or safety bots, protective gloves (for information on individual protective equipment see sub-section 8.2 of this SDS).

6.2 Environmental precautions

Collect the product as much as possible in sealed containers. Do not empty into drains.

6.3 Methods and material for containment and cleaning up

Contain the spilled product with absorbent material (e.g. sand, silica gel, acid binder, general purpose binder, sawdust).

6.4 Reference to other sections

See section 8.2 of this SDS for individual protective equipment and sub-section 13 for waste disposal.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Technical measures. Protective measures from fire and explosion: in case of fire, cool methanol containers by spraying water on them. Methanol vapors may form explosive mixture with air. Equipment must be protected from the formation of electrostatic charges. Containers should be grounded. There should be no sources of ignition. Keep the fire extinguishers in easily accessible places.

General occupation hygiene: workplace must be equipped by local exhaust ventilation. Avoid contact with skin or eyes. Do not inhale or swallow. Do not smoke at working area.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/ storage conditions: keep container tightly closed in a cool, well-ventilated place. Keep locked up.

Incompatible materials: product vapors with air create explosive mixtures. Strongly reacts with oxidizing agents. Keep away from ethanol.

It is allowed to store up to 500 tons of methanol at a time in a warehouse. Larger amounts of methanol can be stored in facilities where according to the Resolution of the Government of the Republic of Lithuania No.16.08.2004. 966 "On the Approval of the Description and Listing of Criteria for the Listing and Classification of Substances, Mixtures or Preparations of Hazardous Substances in Hazardous Substances" (Official Gazette, 2004, No. 130-4649), as well as subsequent amendments and supplements or directive 2012/18 / EU requirements for hazardous objects.

7.3 Relevant identified uses

For use, see sub-section 1.2.1 of this SDS.

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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Chemical, worker exposure limit value in air:

Long-term exposure limits (IPRD): 260 mg / m³ (applicable in Lithuania according to hygiene norm HN 23).

Non-limiting value (s) (DNEL).

Methanol registration information according to REACH dossier is provided.

For workers

Exposure mode	Exposure type	Hazardous	Physicochemical property that could have the greatest negative effect
Inhalation	Systemic effect – Long lasting	DNEL: 260 mg/m ³	Acute toxicity
Inhalation	Systemic effect – Acute	DNEL: 260 mg/m ³	Acute toxicity
Inhalation	Local effect – Long lasting	DNEL: 260 mg/m ³	Acute toxicity
Inhalation	Local effect – Acute	DNEL: 260 mg/m ³	Acute toxicity
Dermal	Systemic effect – Long lasting	DNEL: 40 mg/kg bw/day	Acute toxicity
Dermal	Systemic effect – Acute	DNEL: 40 mg/kg bw/day	Acute toxicity
Dermal	Local effect – Long lasting	No hazard identified	
Dermal	Local effect – Acute	No hazard identified	
Through the eyes	Local effect	No hazard identified	

For the general public

Exposure mode	Exposure type	Hazardous	Physicochemical property that could have the greatest negative effect
Inhalation	Systemic effect – Long lasting	DNEL: 50 mg/m ³	Acute toxicity
Inhalation	Systemic effect – Acute	DNEL: 50 mg/m ³	Acute toxicity
Inhalation	Local effect – Long lasting	DNEL: 50 mg/m ³	Acute toxicity
Inhalation	Local effect – Acute	DNEL: 50 mg/m ³	Acute toxicity
Dermal	Systemic effect – Long lasting	DNEL: 8 mg/kg bw/day	Acute toxicity
Dermal	Systemic effect – Acute	DNEL: 8 mg/kg bw/day	Acute toxicity
Dermal	Local effect – Long lasting	No hazard identified	
Dermal	Local effect – Acute	No hazard identified	
Ingested	Systemic effect – Long lasting	DNEL: 8 mg/kg bw/day	Acute toxicity
Ingested	Systemic effect – Acute	DNEL: 8 mg/kg bw/day	Acute toxicity
Through the eyes	Local effect	No hazard identified	

Predicted inactive concentration (s) (PNEC)

Methanol registration values according to REACH dossier are provided.

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Task in the field of environmental protection	PNEC value
Fresh water	20,8 mg/l
Fresh water sediment	77 mg/kg dw
Sea water	2,08 mg/l
Intermittent discharges into water	1540 mg/l
Sea water sediment	7,7 mg/kg dw
Food chain	Lack of bio accumulation due to low log Pow
Microorganisms in sewage cleaning plants	100 mg/l
Soil	100 mg/kg dw.
Air	No hazard identified

8.2 Exposure controls

8.2.1 Appropriate engineering controls: exhaust ventilation.

8.2.2 Individual protection measures, such as personal protective equipment:

8.2.2.1 Eye (face) protection: chemical resistant hermetic safety goggles according to DIN EN 166, face protection shield (according to CSN EN 402). Recommended face shielding equipment.

8.2.2.2. Skin protection

Hand protection: Use chemically resistant protective gloves according to CSN EN 374. When choosing gloves, make sure that they are made of suitable materials, are of sufficient thickness and not less than the required penetration resistance. Different glove materials are unevenly resistant to the effects of the product. This resistance is indicated by the time of penetration (that is, the time during which the product containing the gloves will completely penetrate through them). The shorter the time, the less is the glove material resistant to the effect of the product. The manufacturer or consumer of the product must choose the appropriate glove material from the available options based on the nature of their work, the likelihood of contact with the product, the probable duration of exposure. When constantly working with the product it is recommended that the material of used gloves can withstand from being penetrated for at least 480 minutes. When working with the product, gloves can not be used for longer than the penetration time. When finished, the gloves must be cleaned and washed before they are taken off. Sufficient attention should be given to hand skin care. Skin protection cream does not protect from the product sufficiently. The inside of the gloves cannot contain powders which can cause hand skin allergies.

Protective gloves must be made of one of the following materials, to be of appropriate thickness, penetration resistance:

- Butil Rubber – at least 0,5 mm thick (penetration time \geq 480 min);
- LLDPE – at least 0,062 mm thick (penetration time \geq 480 min);
- Viton butyl – at least 0,70 mm thick (penetration time \geq 480 min);
- Neoprene – at least 1.35 mm thick (penetration time 480 min);
- Butyl rubber – at least 0,35 mm thick (penetration time 277 – 480 min);
- Fluorocarbon rubber – at least than thick 0,40 mm (penetration time \geq 240 min);
- Neoprene and natural rubber – at least 0,75 mm thick (penetration time 210 min);
- Polychloroprene – at least 0,5 mm thick (penetration time \geq 60 minutes);
- Nitrile synthetic rubber – at least 0,40 mm thick (penetration time \geq 60 minutes).

Incompatible protective gloves made of:

- Nitrile, 0.40 mm thick (penetration time 28 min);
- Nitrile / Neoprene, 0.19 mm thick (penetration time 22 min);
- Neoprene, 0.13 mm thick (penetration time $<$ 10 min);
- Nitrile, 0.12 mm thick (penetration time of 1 – 6 minutes);
- Polyvinyl chloride;
- Nitrile rubber / nitrile latex;
- Natural rubber / natural latex;
- PVA;
- Textile;

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– Leather.

Please note that the penetration time of the glove material in this section has been determined at 22 °C. When using a higher temperature product, the resistance of the glove material can be reduced, so in such cases the permitted time to use gloves must be shortened. If you have any questions about the relevant suitability of the gloves, please contact the manufacturers / suppliers of the gloves.

Other protection: Chemically resistant work clothes according to DIN EN 14605, DIN EN 13402, work footwear DIN EN 20345.

8.2.2.3 Respiratory protection: Use breathing protection if the workplace contains vapors or aerosols. It is recommended to use a filtration gas mask with an A2B2E2K2 brand filter or self-contained breathing apparatus.

Other protection: Wash hands, forearms and face thoroughly with soap and water after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing.

8.2.3 Environmental exposure control: Do not allow to enter drains or the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

(a) **Appearance:** colorless liquid, at a temperature of 20 °C and a pressure of 101,3 kPa (data source – methanol registration according to REACH dossier).

(b) **Odour:** typical odour of ethanol.

(c) **Odour threshold:** The ethanol smell is also characteristic of very small quantities of the product.

(d) **pH:** not detected.

(e) **Melting point/Freezing point °C:** -97,8 °C at a pressure of 101.3 kPa (data source – methanol registration according to REACH dossier).

(f) **Initial boiling point and boiling range °C:** 64.7 °C at a pressure of 101 325 Pa (data source – methanol registration according to REACH dossier).

(g) **Flash-point:** 9.7 °C at a pressure of 1013 Pa (data source – methanol registration according to REACH dossier).

(h) **Evaporation rate:** data not available.

(i) **Flammability:** classified as flammable liquid (GHS 02: flammable; H225 – Highly flammable liquid and vapor). The substance is not classified as flammable gas, flammable solids, flammable in contact with water, flammable aerosols, pyrophoric solids, pyrophoric liquid, self-heating material (data source – methanol registration according to REACH dossier).

(j) **Upper (lower) flammability or explosive limit values:**

Lower explosion limit: 6.7 % (V) (based on literature data);

Upper explosion limit: 34.7 % (V) (based on literature data);

Based on the chemical structure there is no indicating of explosive properties.

(k) **Vapor pressure:** 169.27 hPa at 25 °C (data source – methanol registration according to REACH dossier).

(l) **Vapor density:** 0.7871 – 0.8 g/cm³ at 20 °C (based on literature data).

(m) **Relative density:** 0,79 – 0,8 at 20 °C (data source – methanol registration according to REACH dossier).

(n) **Solubility:** fully miscible with water at 20 °C (data source – methanol registration according to REACH dossier).

(o) **Partition coefficient n-octanol/water:** Log Kow (Log Pow) is -0.77 at 20 °C (data source – methanol registration according to REACH dossier).

(p) **Auto – ignition temperature:** 455 °C at a pressure of 1013 hPa (data source – methanol registration according to REACH dossier).

(q) **Decomposition temperature:** data not available.

(r) **Viscosity:** 0.544 – 0.59 mPa.s at 25 °C (data source – methanol registration according to REACH dossier).

(s) **Explosive properties:** Non-explosive. There are no chemical groups in the product that are related to

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explosive properties (data source - methanol registration according to REACH dossier).
(t) Oxidizing properties: does not indicate oxidizing properties

9.2 Other information

None.

SECTION 10. STABILITY AND REACTIVITY**10.1 Reactivity**

Stable under recommended storage and handling conditions (see section 7, handling and storage).

10.2 Chemical stability

Stable under recommended storage and handling conditions (see section 7, handling and storage).

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

High temperature, open fire.

10.5 Incompatible materials

Avoid store near to oxidizing agents, alkali and alkaline earth metals and halogens.

10.6 Hazardous decomposition products

None.

SECTION 11. TOXICOLOGICAL INFORMATION

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11.1 Information on toxicological effects

Acute toxicity:

Of high toxicity after short-term inhalation. Characterized by high toxicity even after short-term contact with the skin. Of high toxicity after single ingestion.

Experimental/calculated data:

LD50 rat (oral): 7,914 mg/kg (BASF-Test)

The European Union (EU) has classified this substance as “toxic”.

LC50 rats (by inhalation): 128.2 mg/l 4 h (BASF-Test).

LD50 rabbits (dermal): 17.100 mg/kg.

Skin irritation or/and sensitization: Studies made with rats have shown that the product does not cause dermal irritation. Skin irritation study results are eclipsed by dermal toxicity of the product (Data source – methanol registration according to REACH dossier).

Serious eye damage/irritation: Studies made with rats have shown that the product may cause mild to moderate conjunctivitis or edema, but the studies made were not sufficient to classify the product as irritating to the eye in accordance with Regulation (EC) No. 1272/2008. Eye irritation study results are eclipsed by dermal toxicity of the product (Data source – methanol registration according to REACH dossier).

Sensitizing of the airways or skin: Studies made with rats have shown that the product may cause mucosal membrane irritation or corneal opacities, but the studies made were not sufficient to classify the product as sensitizing according to Regulation (EC) No. 1272/2008. Sensitization study results are eclipsed by dermal and inhalation toxicity of the product (Data source – methanol registration according to REACH dossier).

Mutagenicity: mutagenic effects were observed during microorganisms and cell cultures tests. Neither were any mutagenic effects detected in vivo studies. Based on this data a conclusion that the product is not classified as mutagenic has been made in the methanol registration according to REACH dossier in accordance with Regulation (EC) No. 1272/2008.

Carcinogenicity: Several long-term studies with mice and rats (18 months with mice, 24 months with rats) showed that the product is characterized by carcinogenicity (via inhalation and ingestion). During these long-term studies the mice and rats were exposed to very high levels of the product but the doses of carcinogenicity that humans can be affected while at work was not inherent to animals, the methanol registration according to REACH dossier concluded that methanol is not classified as carcinogenic under Regulation (EC) No. 1272/2008.

Reproductive toxicity: During animal testing the methanol registration in REACH dossier had concluded that the product should not be classified as toxic for fertility according to Regulation (EC) No. 1272/2008.

Specific toxicity for particular organ (STOT) (one time effect): product according to Regulation (EC) No. 1272/2008 is classified as a specific toxicant to a specific organ single-dose effect category 1 H370.

Specific toxicity for particular organ (STOT) (repeated effect): product according to Regulation (EC) No. 1272/2008 does not meet classification criteria. The product is toxic via inhalation, via ingestion and dermally.

Aspiration hazard: Not found. The product is toxic via inhalation, via ingestion and dermally.

SECTION 12. ECOLOGICAL INFORMATION

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12.1 Toxicity

Assessment of aquatic toxicity: There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish:LC50 (96 h) 15.400 mg/l, *Lepomis macrochirus* (other, Flow through.).

Aquatic invertebrates:EC50 (48 h) > 10.000 mg/l, *Daphnia magna* (DIN 38412 Part 11, static).

Aquatic plants:EC50 (96 h) approx. 22.000 mg/l (growth rate), *Selenastrum capricornutum* (OECD Guideline 201, static).

Microorganisms/Effect on activated sludge:EC50 (24 h) 880 mg/l, *Nitrosomonas* sp. (Inhibition of nitrification, aquatic).

Soil living organisms:LC50 (48 h) > 1 mg/cm², *Eisenia foetida* (OECD Guideline 207, filter paper).

Terrestrial plants:EC50 (3 d) approx. 41.000 mg/l, *Lactuca sativa* (other).

12.2 Persistence and degradability

Assessment biodegradation and elimination (H₂O): Readily biodegradable (according to OECD criteria).

Elimination information:95 % BOD of the ThOD (20 d) (OECD 301 D; EEC 92/69, C.4-E) (aerobic, activated sludge, domestic, non-adapted), readily biodegradable (according to OECD criteria).

12.3 Bio accumulation potential

Bioaccumulation potential:because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

12.4 Mobility in soil

Data not available.

12.5 Results of PBT and vPvB assessment

Regarding all available data on biotic and abiotic degradation, bio accumulation and toxicity it can be stated that the substance does not fulfill the PBT criteria (not PBT) and not the vPvB criteria (not vPvB).

12.6 Other adverse effects

Minor hazards to water.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste from residues. Methanol waste in accordance with Regulation (EU) No. 1357/2014 is classified as hazardous waste by **HP3** „Flammable” hazard statement code H225 „Highly flammable liquid and vapor”, **HP 5** „Specific target organ toxicity (STOT)/Aspiration Toxicity” hazard statement code H370 „Causes damage to organs” and **HP6** „Acute toxicity” hazard statement codes H331 „Toxic if inhaled”, H311 „Toxic in contact with skin” and H301 „Toxic if swallowed”. The area spilled with methanol must be covered with the sand or sawdust. The sand or sawdust must be collected and washed with water. Methanol waste shall be transferred to waste handling companies. Dispose of methanol waste in a safe way and in accordance with all applicable local and national regulations.

Waste product packaging. Methanol packaging waste in accordance with Regulation (EU) No. 1357/2014 is classified as hazardous waste by **HP3** „Flammable” hazard statement code H225 „Highly flammable liquid and vapor”, **HP 5** „Specific target organ toxicity (STOT)/Aspiration Toxicity” hazard statement code H370 „Causes damage to organs” and **HP6** „Acute toxicity” hazard statement codes H331 „Toxic if inhaled”, H311 „Toxic in contact with skin” and H301 „Toxic if swallowed”. Methanol packaging waste must be transferred to waste handling companies. Dispose of methanol packaging waste in a safe way and in accordance with all applicable local and national regulations.

SECTION 14. TRANSPORT INFORMATION



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14.1 UN number

1230

14.2 UN proper shipping name

Methanol.

14.3 Transport hazard class(es)

3.

14.4 Packing group

II.

14.5 Environmental hazards

No one (s) (environmentally friendly in accordance with the rules of dangerous goods).

14.6 Special precautions for consumer

The provisions of the Dangerous Goods (ADR) and their own territory must be observed.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Cargo is not intended for carriage in bulk.

SECTION 15. REGULATORY INFORMATION

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

EU legislation:

- Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;
- Commission Regulation (EU) No. 2015/830 of 28 May 2015 amending Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH);
- Commission Regulation (EC) No. 552/2009 of 22 June 2009 amending Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards Annex XVII;
- REGULATION (EC) No. 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006;
- Commission Regulation (EU) No. 1357/2014 of 18 December 2014 replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives;
- Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC;
- Regulation (EU) No. 98/2013 of the European Parliament and of the Council of 15 January 2013 on the marketing and use of explosives precursors;
- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR);
- The International Rule for Transport of Dangerous Substances by Railway (RID);
- The International Maritime Dangerous Goods (IMDG);
- International Convention for the Prevention of Pollution from Ships (MARPOL 73/78);
- The International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code) (the IBC Code);

National legislation (Lithuania):

- Applicable Law on Waste Disposal of the Republic of Lithuania;
- Applicable Law on Package and Package Waste Handling of the Republic of Lithuania;
- HN23 Maximum Allowable Concentrations of Hazardous Chemical Substances and Preparations in Working Environment. General Requirements;
- HN36 Banned and Restricted Substances;
- Applicable Regulations for Workers "Protection against the Impact of Chemical Factors" and Regulations for Workers "Protection against Carcinogenous and Mutagenous Impacts";
- Applicable Procedure of Safety Data Sheet Requirements and Supply thereof to Professional Consumers;
- Applicable Rules on Labeling of Items (Products) to be Sold in Lithuania and Referring Price thereof;
- Applicable Rules on Waste Disposal;
- 17 of August 2004 Governments of the LR resolution No. 966 „On Prevention, Response and Investigation of dangerous objects and substances, mixtures or preparations classified as hazardous materials, and a list of criteria for designation of the Approval, as subsequently amended and supplemented. (Official Gazette, 2004, No. 130-4649; 2005 No. 131-4731, 2008, No. 109-4159; 2009 No. 90-3855; 2010, No. 59-2894; 2012 No. 61-3078), as amended and supplemented.

Additional information on the relevant Community provisions on safety, health and the environment for the product:

The product is a dangerous substance, which is subject to the Government of the Republic Regulation No. 17.08.2004. 966 „On the Approval of the Description and List of Criteria for the List of Substances, Mixtures or Preparations Substances of Hazardous Substances in Hazardous Substances" (Official Gazette, 2004, No. 130-4649) with all subsequent amendments and supplements and Directive 2012/18 / EU.

Restrictions on the product by Regulation (EU) No. 98/2013: The product is not subject to restrictions according to Regulation (EU) No. 98/2013.

15.2 Chemical safety assessment

A chemical safety assessment has been conducted. See enclosure.

SAFETY DATA SHEET



In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

SECTION 16. OTHER INFORMATION

Revision date: 2018.03.31

Version: 3.0

Revision No. 0

Issuing date: 2018.03.31

(i) A clear evidence of added, deleted or modified information:

The safety data sheet, as compared to its previous version, has been modified in accordance with Commission Regulation (EU) No. 2015/830 requirements. Other changes were made:

- section 1: product using information was modified, emergency number was modified;
- section 4: supplemented by initial protective measures;
- section 6: revised accidental release measures;
- section 7: revised product handling and storage conditions;
- section 8: recorded DNEL, PNEC data, new requirements for personal protective equipment;
- section 9: revised physicochemical properties of the product;
- section 11: introduced additional toxicological data under the REACH dossier;
- section 15: introduced Regulation data.

(ii) List of abbreviations and acronyms used throughout the Safety Data Sheet:

Acute Tox. 3 – Acute toxicity Category 3.

ADR – European Agreement on Dangerous Goods by Road;

EC – European Community;

EC No. – EINECS and ELINCS numbers;

EU – European Union;

EINECS – European Inventory of Existing Commercial chemical Substances

Flam Liq 2 – Flammable liquids Category 2.

HN – Hygiene norm;

IATA – International Air Transport Association.

IMO – Cross-border maritime transport organization

UN – United Nations;

LC50 – fatal concentration in 50% of the studied population;

LD50 – fatal dose in 50% of the studied population (average lethal dose);

PBT – Persistent, bioaccumulative and toxic;

PC – Product category;

RID – Regulations Concerning the International Carriage of Dangerous Goods by Rail;

SDS – Safety Data Sheet;

SMGS – Agreement on the International Carriage of Goods by Rail.

STOT SE 1 – Specific Target Organ Toxicity Category 1.

vPvB – Very persistent and very bioaccumulative.

Explanation of utilization sector (SU):

SU3 – Industrial use: the use of materials as such or in mixtures.

SU8 – Production of bulky, high-volume chemicals (including petroleum products).

SU9 – Manufacture of small chemicals.

SU10 – Preparation and / or re-packaging of the mixture (excluding melting).

SU21 – Private household (= the general public = further consumers).

SU22 – Public area (cleaning, training, entertainment, service, crafts).

Product Category (PC) explanation:

PC4 – Freezing and icing prevention measures.

PC13 – Fuel.

PC35 – Washing and cleaning products (including solvent based products).

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(iii) Bibliography:

- 1) AB Achema company standard [ST 156667399-62 Methanol];
- 2) Methanol registration according to the REACH dossier, published on the website of the European Chemicals Agency [dated 30.2.2018].
- 3) DIN EN 166: Standard specifies functional requirements for various types of personal eye-protectors.
- 4) CSN EN 374: Protective gloves against dangerous chemicals and micro-organisms.
- 5) CSN EN 402: Standart for respiratory protective devices. Lung governed demand self-contained open-circuit compressed air breathing apparatus with full face mask or mouthpiece assembly for escape.
- 6) DIN EN 13402: Size designation of clothes.
- 7) CSN EN 14387: Respiratory protective devices - Gas filter(s) and combined filter(s) - Requirements, testing, marking.
- 8) DIN EN 14605: Protective clothing against liquid chemicals - Performance requirements for clothing with liquid-tight (Type 3) or spray-tight (Type 4) connections, including items providing protection to parts of the body only (Types PB [3] and PB [4]).
- 9) DIN EN ISO 20345 „Personal protective equipment – Safety footwear (ISO 20345)”.

(iv) Applicable classification and procedures used to determine the classification of mixtures in accordance with Regulation (EC) No. 1272/2008 [CLP Regulation]: product in accordance with Regulation (EC) No. 1907/2006 (REACH) is treated as a single substance. Its classification is based on the methanol registration according to REACH dossier data.

(v) Hazard and precautionary Statements:

H225 – Highly flammable liquid and vapor.

H331 – Toxic if inhaled.

H311 – Toxic in contact with skin.

H301 – Toxic if swallowed.

H370 – Causes damage to organs.

P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P243 – Take action to prevent static discharges.

P260 – Do not breathe dust/fume/gas/mist/vapors/spray.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P304+P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P303+P361+P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P403+P235 – Store in a well-ventilated place. Keep cool.

(vi) Training Advice:

Workers must be trained in the proper use and handling of this product as required under applicable regulations. The consumer's attention is drawn to possible other provisions that complement these requirements. Adhere to all applicable national, international and local requirements or regulations. People handling this product must be trained to work with hazardous substances, hygiene skills, working with hazardous substances, methanol properties and risks.

NOTE. The information provided in this safety data sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any proceed, unless specified in the text.

Release info: This version replaces all previous documents.

SAFETY DATA SHEET



In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Annex:

Exposure Scenarios:

1. **Manufacture of the substance/Use as an intermediate/Use as an process chemical;**
2. **Distribution of the substance;**
3. **Formulation and (re)packing of substance and mixtures;**
4. **Use as a fuel in industrial settings;**
5. **Use as a fuel in professional settings;**
6. **Use as a laboratory reagent in industrial settings;**
7. **Use as a laboratory reagent in professional settings;**
8. **Industrial use in wastewater treatment processes;**
9. **Industrial use as oilfield chemical (addition to water based drilling agents);**
10. **Consumer use of cleaning agents and de-icers (liquid products);**
11. **Consumer use of de-icers (spray products);**
12. **Consumer use of fuels indoors indoors (Domestic/hobby use e.g in model engines, fuel cells, fondue sets);**
13. **Consumer use of fuels outdoors (gasoline additive).**

Free short title

Manufacture of the substance/Use as an intermediate/Use as an process chemical

SU 3, SU 8, SU 9, ERC 1, ERC 2, ERC 6a, ERC 6b, PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15

Manufacture of the substance or use as an intermediate or process chemical or extraction agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities

Control of exposure and risk management measures

Use descriptor covered	PROC 1, PROC 3
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hand (240 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
For PROC 1 no local exhaust ventilation is necessary.	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.01 mg/m ³ ; RCR: 0.00004
Worker, short-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.05 mg/m ³ ; RCR: 0.002
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR: 0.008
Worker, long-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051

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Worker, short-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Guidance to downstream consumers	
For scaling and further information see www...	

Use descriptor covered	PROC 2, PROC 4
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 6.67 mg/m ³ ; RCR: 0.026
Worker, short-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 1.37 mg/kg bw/day, RCR:0.034
Worker, long-term exposure, systemic effects, inhal.	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051
Worker, short-term exposure, systemic effects, inhal.	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
Guidance to downstream consumers	
For scaling and further information see www...	

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Methanol

Use descriptor covered	PROC 8a
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 13.71 mg/kg bw/day, RCR:0.343
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 8b
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 97%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 6.00 mg/m ³ ; RCR:0.23
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 12.00 mg/m ³ ; RCR:0.46
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 15
Operational conditions	

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Methanol

Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hands (240 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 6.67 mg/m ³ ; RCR:0.26
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.51
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.009
Guidance to downstream consumers	
For scaling and further information see www....	

Free short title

Distribution of the substance

SU 3, SU 8, SU 9, ERC 1, ERC 2, ERC 6a, ERC 6b, PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9

Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its distribution and associated laboratory activities

Control of exposure and risk management measures

Use descriptor covered	PROC 1, PROC 3
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hand (240 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
For PROC 1 no local exhaust ventilation is necessary.	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.01 mg/m ³ ; RCR:0.00004
Worker, short-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.05 mg/m ³ ; RCR:0.0002
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 1:

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Methanol

	Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Worker, long-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.51
Worker, short-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Guidance to downstream consumers	
For scaling and further information see www...	

Use descriptor covered	PROC 2, PROC 4
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 6.67 mg/m ³ ; RCR:0.26
Worker, short-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 1.37 mg/kg bw/day, RCR:0.034
Worker, long-term exposure, systemic effects, inhal.	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051
Worker, short-term exposure, systemic effects, inhal.	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171

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Methanol

Guidance to downstream consumers
For scaling and further information see www....

Use descriptor covered	PROC 8a
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 13.71 mg/kg bw/day, RCR:0.343
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 8b
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 97%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 6.00 mg/m ³ ; RCR:0.023
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 12.00 mg/m ³ ; RCR:0.046
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
Guidance to downstream consumers	
For scaling and further information see www....	

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Methanol

Use descriptor covered	PROC 9
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
Guidance to downstream consumers	
For scaling and further information see www....	

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Free short title

Formulation and (re)packaging of substances and mixtures

SU 3, SU 10, ERC 2, PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 15

Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, large and small scale packing, maintenance and associated laboratory activities

Control of exposure and risk management measures

Use descriptor covered	PROC 1, PROC 3
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hand (240 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
For PROC 1 no local exhaust ventilation is necessary.	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.01 mg/m ³ ; RCR:0.00004

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Worker, short-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.05 mg/m ³ ; RCR:0.0002
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Worker, long-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051
Worker, short-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 2, PROC 4
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 6.67 mg/m ³ ; RCR:0.026
Worker, short-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 1.37 mg/kg bw/day, RCR:0.034
Worker, long-term exposure, systemic effects, inhal.	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051
Worker, short-term exposure, systemic effects, inhal.	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified

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Methanol

	53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 8a
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 13.71 mg/kg bw/day, RCR:0.343
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 8b
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 97%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 6.00 mg/m ³ ; RCR:0.023
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 12.00 mg/m ³ ; RCR:0.046

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Methanol

Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 9
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 15
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hands (240 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 6.67 mg/m ³ ; RCR:0.026
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.009

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Guidance to downstream consumers

For scaling and further information see www....

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Free short title

Use as a fuel in industrial settings

SU 3, ERC 8b, PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16, PROC 19

Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste

Control of exposure and risk management measures

Use descriptor covered	PROC 1, PROC 3
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hand (240 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
For PROC 1 no local exhaust ventilation is necessary.	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.01 mg/m ³ ; RCR:0.00004
Worker, short-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.05 mg/m ³ ; RCR:0.0002
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Worker, long-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051
Worker, short-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Guidance to downstream consumers	
For scaling and further information see www....	

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Use descriptor covered	PROC 2
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 6.67 mg/m ³ ; RCR:0.026
Worker, short-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 1.37 mg/kg bw/day, RCR:0.034
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 8a
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 13.71 mg/kg bw/day, RCR:0.343
Guidance to downstream consumers	
For scaling and further information see www....	

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Use descriptor covered	PROC 8b
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 97%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 6.00 mg/m ³ ; RCR:0.023
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 12.00 mg/m ³ ; RCR:0.046
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 16
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hand (240 cm ²)
Risk management measures	
Not relevant	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 19
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SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	Max. 10%
Duration/Frequency of activity	1 - 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands and forearms (1980 cm ²)
Risk management measures	
Use of suitable gloves with basic training	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 20.00 mg/m ³ ; RCR:0.077
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 40.00 mg/m ³ ; RCR:0.154
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 14.14 mg/kg bw/day, RCR:0.354
Guidance to downstream consumers	
For scaling see www....	

Free short title

Use as a fuel in professional settings

SU 22, ERC 8b, ERC 8e, PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16, PROC 19

Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste

Control of exposure and risk management measures

Use descriptor covered	PROC 1, PROC 3
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hand (240 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 80%
For PROC 1 no local exhaust ventilation is necessary.	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.13 mg/m ³ ; RCR:0.0005
Worker, short-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified

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In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

	0.53 mg/m ³ ; RCR:0.002
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Worker, long-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, short-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 106.67 mg/m ³ ; RCR:0.410
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 2
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 80%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051
Worker, short-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 1.37 mg/kg bw/day, RCR:0.034
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 8a
Operational conditions	
Domain	professional

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Physical state/Concentration of the substance	Max. 5 %
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	
Not relevant	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.68 mg/kg bw/day, RCR:0.017
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 8b
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	Max. 5 %
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Not relevant	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 16.67 mg/m ³ ; RCR:0.064
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 16
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours

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In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hand (240 cm ²)
Risk management measures	
Not relevant	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 133.33 mg/m ³ ; RCR:0.513
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.009
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 19
Operational conditions	
Domain	professiona
Physical state/Concentration of the substance	Max. 10%
Duration/Frequency of activity	1 - 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands and forearms (1980 cm ²)
Risk management measures	
Use of suitable gloves with basic training	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 40.00 mg/m ³ ; RCR:0.154
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 80.00 mg/m ³ ; RCR:0.308
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 14.14 mg/kg bw/day, RCR:0.354
Guidance to downstream consumers	
For scaling and further information see www....	

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Free short title

Industrial use in cleaning agents

SU 3, ERC 4, PROC 1, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 10, PROC 13

Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.

Control of exposure and risk management measures

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Use descriptor covered	PROC 1, PROC 3
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hand (240 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
For PROC 1 no local exhaust ventilation is necessary.	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.01 mg/m ³ ; RCR:0.00004
Worker, short-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.05 mg/m ³ ; RCR:0.0002
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Worker, long-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051
Worker, short-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Guidance to downstream consumers	
For scaling and further information see www...	

Use descriptor covered	PROC 2, PROC 4
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%

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In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

<i>Exposure estimation and reference to its source</i>	
Worker, long-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 6.67 mg/m ³ ; RCR:0.026
Worker, short-term exposure, systemic effects, inhal.	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 2: Calc. method: ECETOC TRA Worker v2.0 modified 1.37 mg/kg bw/day, RCR:0.034
Worker, long-term exposure, systemic effects, inhal.	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051
Worker, short-term exposure, systemic effects, inhal.	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 4: Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
<i>Guidance to downstream consumers</i>	
For scaling and further information see www....	

Use descriptor covered	PROC 7
<i>Operational conditions</i>	
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	8 hours; 4-5days per week
Indoor/Outdoor	Indoor activity
Room size	> 1000 m ³
Exposed skin area	No skin contact
Distance worker to source	> 1 m
<i>Risk management measures</i>	
Work in a spray cabin without specific ventilation system. Work area is regularly cleaned. Equipment is regularly inspected and well cleaned.	
<i>Exposure estimation and reference to its source</i>	
Worker, long-term exposure, systemic effects, inhal. Worker, short-term exposure, systemic effects, inhal.	Calc. method: Stoffenmanager v3.5 141.10 mg/m ³ ; RCR:0.542 75 th percentile
<i>Guidance to downstream consumers</i>	
For scaling and further information see www....	

Use descriptor covered	PROC 8a
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SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 13.71 mg/kg bw/day, RCR:0.343
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 8b
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 97%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 6.00 mg/m ³ ; RCR:0.023
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 12.00 mg/m ³ ; RCR:0.046
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 10
Operational conditions	
Domain	industrial

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In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Physical state/Concentration of the substance	Max. 80%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 21.94 mg/kg bw/day, RCR:0.549
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 13
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 13.71 mg/kg bw/day, RCR:0.343
Guidance to downstream consumers	
For scaling and further information see www....	

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Free short title

Professional use in cleaning agents
 SU 22, ERC 8a, ERC 8d, PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13
 Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing,

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

dipping, wiping, automated and by hand).

Control of exposure and risk management measures

Use descriptor covered	PROC 1, PROC 3
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hand (240 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 80%
For PROC 1 no local exhaust ventilation is necessary.	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.13 mg/m ³ ; RCR:0.0005
Worker, short-term exposure, systemic effects, inhal.	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.53 mg/m ³ ; RCR:0.002
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 1: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.0008
Worker, long-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, short-term exposure, systemic effects, inhal.	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 106.67 mg/m ³ ; RCR:0.410
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	PROC 3: Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.0008
Guidance to downstream consumers	
For scaling and further information see www...	

Use descriptor covered	PROC 2
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity



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In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 80%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 1.37 mg/kg bw/day, RCR:0.034
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 4
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	1-4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 80%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 40.00 mg/m ³ ; RCR:0.154
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 80.00 mg/m ³ ; RCR:0.615
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 8a
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	Max. 5%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Not relevant.	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.68 mg/kg bw/day, RCR:0.017
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 8b
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	Max. 5%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Not relevant	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 16.67 mg/m ³ ; RCR:0.064
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 10
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	Max. 5%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	
Not relevant.	
Exposure estimation and reference to its source	

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 21.94 mg/kg bw/day, RCR:0.034
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 11
Operational conditions	
Physical state/Concentration of the substance	Max. 3%
Duration/Frequency of activity	200 mins; 4-5days per week
Indoor/Outdoor	Indoor activity
Room size	100 - 1000 m ³
Exposed skin area	Both hands (820 cm ²)
Amount used	Max. 5L/min
Distance worker to source	> 1 m
Spraying is done level or downward. Direction of airflow from the source is clearly away from the worker.	
Risk management measures	
Use of suitable chemical resistant gloves with basic training	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal. Worker, short-term exposure, systemic effects, inhal.	Calc. method: Stoffenmanager v3.5 134.10 mg/m ³ ; RCR:0.516 75 th percentile
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: Riskofderm v4.0 7.24 mg/kg bw/day, RCR:0.181
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 13
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 80%

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 133.33 mg/m ³ ; RCR:0.513
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 13.71 mg/kg bw/day, RCR:0.343
Guidance to downstream consumers	
For scaling and further information see www....	

Free short title

Use as a laboratory reagent in industrial settings

SU 3, ERC 4, PROC 10, PROC 15

Use of the substance within laboratory settings, including material transfers and equipment cleaning

Control of exposure and risk management measures

Use descriptor covered	PROC 10
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	Max. 80%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 53.33 mg/m ³ ; RCR:0.205
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 21.94 mg/kg bw/day, RCR:0.549
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 15
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Exposed skin area	Palm of one hands (240 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 6.67 mg/m ³ ; RCR:0.026
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.051
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.009
Guidance to downstream consumers	
For scaling and further information see www....	

Free short title

Use as a laboratory reagent in professional settings

SU 3, ERC 4, PROC 10, PROC 15

Use of the substance within laboratory settings, including material transfers and equipment cleaning

Control of exposure and risk management measures

Use descriptor covered	PROC 10
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	Max. 5%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	
Not relevant.	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 21.94 mg/kg bw/day, RCR:0.034
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 15
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	100%

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of one hands (240 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 80%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 13.33 mg/m ³ ; RCR:0.51
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.009
Guidance to downstream consumers	
For scaling and further information see www....	

Free short title

Industrial use as wastewater treatment chemical
SU 3, ERC 9b, PROC 2

Control of exposure and risk management measures

Use descriptor covered	PROC 2
Operational conditions	
Domain	industrial
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 90%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 6.67 mg/m ³ ; RCR:0.026
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 26.67 mg/m ³ ; RCR:0.103
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 1.37 mg/kg bw/day, RCR:0.034
Guidance to downstream consumers	
For scaling and further information see www....	

Free short title

Professional use in oilfield drilling and production operations
SU 22, ERC 9b, PROC 4, PROC 5, PROC 8a, PROC 8b
Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers,

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

on-site formulation, well head operations, shaker room activities and related maintenance.

Control of exposure and risk management measures

Use descriptor covered	PROC 4
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	100 %
Duration/Frequency of activity	1 -4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Local exhaust ventilation	Effectiveness: 80%
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 40.00 mg/m ³ ; RCR:0.154
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 160.00 mg/m ³ ; RCR:0.615
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 6.86 mg/kg bw/day, RCR:0.171
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 5
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	Max. 5 %
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Not relevant	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.68 mg/kg bw/day, RCR:0.017
Guidance to downstream consumers	
For scaling and further information see www....	

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Use descriptor covered	PROC 8a
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	Max. 5 %
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Both hands (960 cm ²)
Risk management measures	
Not relevant	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 66.67 mg/m ³ ; RCR:0.256
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.68 mg/kg bw/day, RCR:0.017
Guidance to downstream consumers	
For scaling and further information see www....	

Use descriptor covered	PROC 8b
Operational conditions	
Domain	professional
Physical state/Concentration of the substance	Max. 5 %
Duration/Frequency of activity	> 4 hours
Indoor/Outdoor	Indoor activity
Exposed skin area	Palm of both hands (480 cm ²)
Risk management measures	
Not relevant	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 16.67 mg/m ³ ; RCR:0.064
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 33.33 mg/m ³ ; RCR:0.128
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.008
Guidance to downstream consumers	
For scaling and further information see www....	

Free short title

Consumer use of cleaning agents (e.g. windshield cleaner) and de-icers (liquid non-spray products)
SU 21, ERC 8a and 8d, PC 4, PC 35

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Covers the use of methanol containing ready-to-use non-spray products (no dilution and mixing necessary) in cleaners having a small package size (de-icers, windshield cleaners)

Control of exposure and risk management measures

Use descriptor covered	PC 4, PC 35
Operational conditions	
Physical state/Concentration of the substance	Max. 2.5%
Duration/Frequency of activity	Application duration: 20 mins, Exposure duration: 240 mins; 104 times per year
Exposed skin area	Both hands and forearms (1900 cm ²)
Amounts used	100 g per event
Room size	58 m ³
Ventilation rate per hour	0.5
Release area	5 m ²
Product design	Small package size (see amounts used), non-spray product, ready-to-use product
Risk management measures	
Not relevant	
Exposure estimation and reference to its source	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ConsExpo (v4.1) Default exposure scenario with modifications: Cleaning and washing agents/All-purpose cleaners/Liquid cleaner/Application 3.05 mg/m ³ ; RCR:0.061
Worker, short-term exposure, systemic effects, inhal.	Calc. method: ConsExpo (v4.1) Default exposure scenario with modifications: Cleaning and washing agents/All-purpose cleaners/Liquid cleaner/Application 18.30 mg/m ³ ; RCR:0.366
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ConsExpo (v4.1) Default exposure scenario with modifications: Cleaning and washing agents/All-purpose cleaners/Liquid cleaner/Application 1.92 mg/kg bw/day, RCR:0.24
Guidance to downstream consumers	
For scaling and further information see www.chema.com	

Free short title

Consumer use of cleaning agents (e.g. windshield cleaner) and de-icers (liquid spray products)
SU 21, ERC 8a and 8d, PC 4, PC 35

Covers the use of methanol containing ready-to-use spray products (no dilution and mixing necessary) in cleaners having a small package size (de-icers, windshield cleaners)

Control of exposure and risk management measures

Use descriptor covered	PC 4, PC 35
Operational conditions	

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Physical state/Concentration of the substance	Max. 5.0%
Duration/Frequency of activity	Application duration: 10 mins, Exposure duration: 60 mins; 365 times per year
Exposed skin area	Spraying: Both hands (960 cm ²), Cleaning: Palm of one hand (215 cm ²)
Amounts used	16.2 g per event
Room size	15 m ³
Ventilation rate per hour	2.5
Room height	2.5 m
Release area	1.71 m ²
Product design	Small package size (see amounts used), non-spray product, ready-to-use product
<i>Risk management measures/Behavioural advice</i>	
Spraying away from the consumer	
<i>Exposure estimation and reference to its source</i>	
Consumer, long-term exposure, systemic effects, inhal.	Calc. method: ConsExpo (v4.1) Default exposure scenario: Cleaning and washing agents/All-purpose cleaners/Spray cleaner/Application spraying and application cleaning 0.822 mg/m ³ ; RCR:0.016
Consumer, short-term exposure, systemic effects, inhal.	Calc. method: Default exposure scenario: Cleaning and washing agents/All-purpose cleaners/Spray cleaner/Application spraying and application cleaning 19.7 mg/m ³ ; RCR:0.394
Consumer, long-term exposure, systemic effects, dermal Consumer, short-term exposure, systemic effects, dermal	Calc. method: Default exposure scenario: Cleaning and washing agents/All-purpose cleaners/Spray cleaner/Application spraying and application cleaning 0.027 mg/kg bw/day, RCR:0.003
Consumer, long-term exposure, systemic effects, oral Consumer, short-term exposure, systemic effects, oral	Calc. method: Default exposure scenario: Cleaning and washing agents/All-purpose cleaners/Spray cleaner/Application spraying and application cleaning 0.0006 mg/kg bw/day, RCR:0.00007
<i>Guidance to downstream consumers</i>	
For scaling and further information see www....	

Free short title

Consumer use of fuels indoors (Domestic/hobby use e.g in model engines, fuel cells, fondue sets)
SU 21, ERC 8a and 8d, PC 13

Covers the use of methanol containing fuels in containers which allow handling which minimizes unintended skin contact (e.g. Filling/loading has to be possible without using a funnel and without spillage.)

Control of exposure and risk management measures

Use descriptor covered	PC 13
<i>Operational conditions</i>	
Physical state/Concentration of the substance	Max. 80 %

SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Duration/Frequency of activity	Application duration: 10 mins, Exposure duration: 10 mins; 2 times per week
Exposed skin area	Spraying: Both hands (960 cm ²), Cleaning: Palm of one hand (215 cm ²)
Amounts used	800 g per event
Room size	20 m ³
Ventilation rate per hour	0.5
Release area	2.0 cm ²
Product design	Small opening, minimization of skin contact
<i>Risk management measures/Behavioural advice</i>	
Close containers immediately after use. Keep container tightly closed. Avoid skin contact. In case of skin contact wash exposed skin areas immediately.	
<i>Exposure estimation and reference to its source</i>	
Consumer, long-term exposure, systemic effects, inhal.	Calc. method: ConsExpo (v4.1) Default exposure scenario: Cleaning and washing agents/All-purpose cleaners/Spray cleaner/Application spraying and application cleaning 0.287 mg/m ³ ; RCR:0.006
Consumer, short-term exposure, systemic effects, inhal.	Calc. method: Default exposure scenario: Cleaning and washing agents/All-purpose cleaners/Spray cleaner/Application spraying and application cleaning 41.3 mg/m ³ ; RCR:0.826
<i>Guidance to downstream consumers</i>	
For scaling and further information see www....	

Free short title

Consumer use of fuels outdoors
SU 21, ERC 8a and 8d, PROC 16

Control of exposure and risk management measures

Use descriptor covered	PROC 16
Further description	Filling up cars and other vehicles at petrol stations
<i>Operational conditions</i>	
Domain	professional
Physical state/Concentration of the substance	100%
Duration/Frequency of activity	< 15 mins
Indoor/Outdoor	Outdoor activity
Exposed skin area	Palm of one hands (240 cm ²)
<i>Risk management measures</i>	
Local exhaust ventilation	Effectiveness: 80%
<i>Exposure estimation and reference to its source</i>	
Worker, long-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 4.67 mg/m ³ ; RCR:0.093



SAFETY DATA SHEET

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II with all subsequent amendments and supplements and EC Regulation No. 830/2015

Methanol

Worker, short-term exposure, systemic effects, inhal.	Calc. method: ECETOC TRA Worker v2.0 modified 9.34 mg/m ³ ; RCR:0.187
Worker, long-term exposure, systemic effects, dermal Worker, short-term exposure, systemic effects, dermal	Calc. method: ECETOC TRA Worker v2.0 modified 0.34 mg/kg bw/day, RCR:0.043
<i>Guidance to downstream consumers</i>	
For scaling and further information see www....	