

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: 2020.02.29

Version No.: 5.0

Revision No.: 0

Issuing date: 2020.02.29

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: 01-2119433307-44-0086-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

Supplier: Company name: AB Achema

Full address: Jonalaukio k., Ruklos sen., LT55296

Phone: +370 349 56736.

URL website: www.achema.lt

Person responsible for the Safety Data Sheet (with e-mail address): A. Platkauskas, a.platkauskas@achema.com.

1.4 Emergency telephone number

Please contact: Poison Information and Control Office in the Republic of Lithuania by phone +370 52362052, cell phone +370 687 53378, on site <http://www.apsinuodijau.lt/information-in-english/> or by the Common emergency Center by 112.

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

Other remarks (language in which assistance is provided): assistance is provided in Lithuanian.

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

Poison Control Centers in Europe are available on site <http://www.who.int/pcs/poisons/centre/directory/euro/en/>. Telephone numbers of poison control centers in the European Economic Area: **IRELAND** (Dublin) +353 1 8379964; **AUSTRIA** (Vienna) +43 1 406 43 43; **BELGIUM** (Brussels) +32 70 245 245; **BULGARIA** (Sofia) +359 2 9154 409; **CZECH REPUBLIC** (Praha) +420 224 919 293; **DENMARK** (Copenhagen) 82 12 12 12; **ESTONIA** (Tallinn) 112; **GREECE** (Athens) +30 10 779 3777; **ICELAND** (Reykjavik) +354 525 111, +354 543 2222; **ITALY** (Rome) +39 06 305 4343; **LATVIA** (Ryga) +371 704 2468; **MALTA** (Valletta) 2425 0000; **NORWAY** (Oslo) 22 591300; **NETHERLANDS** (Bilthoven) +31 30 274 88 88; **FRANCE** (Paris) +33 1 40 0548 48; **FINLAND** (Helsinki) +358 9 471 977; **HUNGARY** (Budapest) 06 80 20 11 99; **GERMANY** (Berlin) +49 30 19240.

SECTION 2. HAZARDS IDENTIFICATION

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.
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.
P307+P311 – IF CONTACTED: 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.
P403+P233 – Store in a well-ventilated place. Keep container tightly closed.
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. Methanol is a colorless, lightly flammable liquid. It dissolves well in water. Methanol boiling point is 64.7 °C, flash point – 9.7 °C. The color, smell and taste of methanol resembles ethyl alcohol. Methanol is extremely strong poison, especially for the nervous system and the vascular system. Man is poisoned by swallowing 5 – 10 ml of methanol and dying from 30 ml and more.

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 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

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:**

Inhalation: toxic if inhaled. Inhalation of methanolic vapors may cause dizziness, flicker of eyes, headache, insomnia, increased fatigue, upset stomach, bowel, vision.

After skin contact: toxic in contact with skin.

Eye contact: In the event of liquid or vapor contact – mild to moderate irritation, conjunctivitis and subsequently chemosis – there is a risk of damage to the cornea. Subsequently, systemic visual disturbances result from the product adsorption.

Ingestion: 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. Can be completely blinded.

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

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

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.

Firefighters should wear personal protective equipment (safety boots, protective work clothing, protective gloves, eye, face protection, respiratory protection) according to LST EN 469.

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

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. Firefighters must wear fire resistant suits, fire suits, rubber vulcanized fire boots, fire resistant gloves, acid resistant gloves, protective helmets according to LST EN 469.

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.

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

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.

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 or 200 ppm (applicable in Lithuania according to hygiene norm HN 23).

Methanol storage and use facilities must carry out airborne chemical measurements and monitoring. The professional use of methanol must comply with the Minister of Social Security and Labor of the Republic of Lithuania and the Minister of Health of 2001. July 24 Approval of Order No 97/406 “On the approval of provisions for the protection of workers from chemical agents at work and on the protection of workers from the effects of carcinogens and mutagens at work (Official Gazette, 2001, No. 65-2396, TAR identification code 1012230ISAK0097 / 406) and all supplements and additions..

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

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

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.

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 LST EN 166, face protection shield according to LST EN 166. Recommended face shielding equipment.

8.2.2.2. Skin protection

Hand protection:

Adequate protection gloves according to LST EN 420, LST EN ISO 374-1 due to chemical protection, LST EN 388 due to mechanical protection. Protective gloves must be made of one of the materials listed in the table, at least as specified, for penetration of thickness and resistance.

Glove material	Glove thickness, mm	Penetration time, min*
Butyl rubber	0.5	≥ 480
LLDPE	0.062	≥ 480
Viton butyl	0.70	≥ 480
Neoprene	1.35	480
Butyl rubber	0.35	277-480
Fluorocarbon rubber	0.40	≥ 240
Neoprene and natural rubber	0.75	210
Polychloroprene	0.50	≥ 60
Nitrile synthetic rubber	0.40	≥ 60

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

* - Time of penetration of glove material is the time that the product in contact with the glove penetrates through it completely. The shorter the penetration time, the glove material is less resistant to 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.

Incompatible protective gloves made of:

- Nitrile, 0.40 mm thick (penetration time 28 min);
- Polyvinyl chloride;
- Nitrile rubber / nitrile latex;
- Natural rubber / natural latex;
- PVA;
- Textile;
- Leather.

Skin protection creams do not adequately protect the product.

Please note that the penetration time of the glove material in this section has been set at 22 °C and using pure methanol. When using product mixture with other materials at normal or higher temperature, the time of penetration of the glove material should be similar in size. When working at a higher temperature, the resistance of the glove material may be considerably lower, and in such cases, the permitted life of the glove must be shortened. We recommend that when you start using a new type or other manufacturer's gloves, make sure that they are chemically and mechanically resistant to working conditions. If you have any questions about the suitability of the gloves, please contact the manufacturers / suppliers of gloves.

The inside of the gloves should not contain powders which can cause hand skin allergies.

Before using the gloves, please always make sure there are no tears, cracks, or other defects. When the work is finished, the gloves must be cleaned and washed thoroughly before they are dry. After work, care must be taken to the hand skin.

Other protection: Chemically resistant work clothes according to LST EN 13688, LST EN 1149-5 due to antistatic, according to heat and flame LST EN 11612, work footwear according to LST EN 20345.

8.2.2.3. Respiratory protection: Use breathing protection: filtering gas mask with "A" gas filter according to LST EN 14387 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.

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.

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

(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 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

Reacts with contact with incompatible materials and combustion sources. Exposure to incompatible materials can cause a strong reaction to an explosion.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Reacts with contact with incompatible materials and combustion sources. Exposure to incompatible materials can cause a strong reaction to an explosion.

10.4 Conditions to avoid

High temperature, open fire, incompatible materials.

10.5 Incompatible materials

Keep away from oxidizing agents, alkalis and alkaline earth metals, halogens, strong mineral and organic acids. Contact with these substances may cause a strong reaction to an explosion. Can corrode lead, aluminum, magnesium and platinum.

10.6 Hazardous decomposition products

Formaldehyde, carbon dioxide, carbon monoxide.

SECTION 11. TOXICOLOGICAL INFORMATION

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

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.

Based on available data, the classification criteria are met according to Regulation (EC) No. 1272/2008 as acute toxic when inhaled Cat. 3, H331, ingested Cat. 3, H301 and in contact with skin Cat. 3, H311.

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). According to the available data, the product does not meet the criteria for classification in accordance with Regulation (EC) No. 1272/2008.

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): according to the available data the 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): the 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

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**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).

Based on available data, the product does not meet the criteria for classification as dangerous for the environment in accordance with Regulation (EC) No. 1272/2008.

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

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

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.

The final product waste code is assigned by the waste manager / holder.

It is recommended not to encourage product disposal with sewage.

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.

Waste code (EWC) recommended for contaminated packaging:

15 01 10 * Packaging containing residues of or contaminated by dangerous substances.

SECTION 14. TRANSPORT INFORMATION

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

The product is packed in packaging for carriage and therefore is not subject to MARPOL 73/78 Annex II and the IBC Code.

SECTION 15. REGULATORY INFORMATION

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

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 including all subsequent amendments and supplements;
- 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) including all subsequent amendments and supplements;
- 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 including all subsequent amendments and supplements;
- 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 including all subsequent amendments and supplements;
- 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 including all subsequent amendments and supplements;
- 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 including all subsequent amendments and supplements;
- 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 including all subsequent amendments and supplements;
- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) (Official Gazette, 2001, No.91-3349, TAR Identification Number 103T001SUTARG31675) including all subsequent amendments and supplements;
- The International Rule for Transport of Dangerous Substances by Railway (RID);
- The International Maritime Dangerous Goods (IMDG);
- 1973 International Convention for the Prevention of Pollution from Ships (Official Gazette, 2004, No.138-5030, TAR Identification Number 073T001KONVRG731618) including all subsequent amendments and supplements;
- The International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code) (the IBC Code) including all subsequent amendments and supplements.

National legislation (Lithuania):

- Applicable Law on Waste Disposal of the Republic of Lithuania (June 16, 1998, No.VIII-787) (Official Gazette, 1998, No.61-1726, TAR Identification Number 0981010ISTAVIII-787), including all subsequent amendments and supplements;
- Applicable Law on Package and Package Waste Handling of the Republic of Lithuania (September 25, 2001, No.IX-517) (Official Gazette, 2001, No.85-2968, TAR Identification Number 1011010ISTA00IX-517), including all subsequent amendments and supplements;
- Minister of Health of the Republic of Lithuania and Minister of Social Security and Labor of the Republic of Lithuania September 1, 2011 Order No. V-824 / A1-389 on the Approval of the Lithuanian Hygiene Norm HN 23: 2011 Occupational Exposure Limits, General Requirements for Measurement and Exposure Assessment of Chemicals (Official Gazette, 2011, No. 112-5274, TAR code 1112250ISAK4 / A1-389) including all subsequent amendments and supplements;
- 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;
- Minister of Environment of the Republic of Lithuania, 1999 July 14 Order No. 2017 "Approval of Waste Management Regulations" (Official Gazette, 1999, No. 63-2065, TAR identification code 099301MISAK000000217), including all subsequent amendments and supplements;

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

- Resolution No. 966 of the Government of the Republic of Lithuania of 17 August 2004 “On the Approval of the Provisions of the Prevention, Liquidation and Investigation of Industrial Accidents and of the List and the Description of Qualification Criteria for the Substances, Mixtures or Preparations Classified as Dangerous Substances in Dangerous Objects” with subsequent amendments and additions (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) with all subsequent amendments and additions;
- LST EN 166 “Personal eye protection. Technical requirements”;
- LST EN ISO 374-1 “Protective gloves against hazardous chemicals and micro-organisms. Part 1. Protective gloves against hazardous chemicals and micro-organisms. Part 1. Terminology and chemical resistance requirements (ISO 374-1: 2016)”;
- LST EN 388 “Protective gloves against mechanical hazards”;
- LST EN 402 “Respiratory protective devices. Lung-controlled self-contained open-circuit compressed air breathing apparatus with full face mask or mouthpiece assembly. Requirements, testing, marking”.
- LST EN 420 “Protective gloves. General requirements and testing methods”;
- LST EN 1149-5 “Protective clothing. Electrostatic properties. Part 5. Material Characteristics and Design Requirements”;
- LST EN ISO 11612 “Protective clothing. Clothing for protection against heat and flame. Minimum performance requirements (ISO 11612: 2015)”;
- LST EN ISO 13688 “Protective clothing. General requirements (ISO 13688:2013)”;
- LST EN 14387 “Respiratory protective devices. Gas filters and composite filters. Requirements, testing, marking”;
- LST EN ISO 20345 “Personal protective equipment. Safe footwear (ISO 20345: 2011)”.
- LST EN 469 “Protective clothing for firefighters. Performance requirements for firefighting protective clothing”;
- LR 2001 by the Minister of Social Security and Labor and the Minister of Health July 24 Order No.97 / 406 on the approval of provisions for the protection of workers from chemical agents at work and the protection of workers from the effects of carcinogens and mutagens at work (Official Gazette, 2001, No. 65-2396, TAR identification code 1012230ISAK0097 / 406), with all subsequent amendments and additions.

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

The product is a dangerous mixture and is subject to requirements according to the Resolution No. 966 of the Government of the Republic of Lithuania of 7 August 2004 “On the Approval of the Provisions of the Prevention, Liquidation and Investigation of Industrial Accidents and of the List and the Description of Qualification Criteria for the Substances, Mixtures or Preparations Classified as Dangerous Substances in Dangerous Objects” (Official Gazette, 2004, No. 130-4649) with subsequent amendments and additions or the Directive 2012/18/EU.

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

15.2. Chemical safety assessment

A chemical safety assessment has been carried out for this substance in accordance with Article 14 of the REACH Regulation. See annex to this SDS.

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: 2020.02.29

Version: 5.0

Revision No. 0

Issuing date: 2020.02.29

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

The following changes were made to the safety data sheet as compared to the previous version:

- sub-section 1.3: Updated information about company zip code and phone number.
- sub-section 1.4: supplemented by contact information (telephone numbers) of poison control centers in the European Economic Area.
- sub-section 4.2: supplemented with symptoms according to routes of exposure.
- sub-section 5.3: supplemented according to LST EN 469.
- sub-section 6.1.2: supplemented with information on what to use in case of an emergency case.
- sub-section 8.1: supplemented with what materials to measure and monitor. And what order to follow in the manufacture and professional use of formalin.
- section 13: Additional information on the final product waste code has been added.
- section 15: Updated information on EU and national legislation.

(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.

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

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).

(iii) Bibliography:

1) Methanol registration according to the REACH dossier, published on the website of the European Chemicals Agency [dated 30.3.2018].

2) <http://gestis-en.itrust.de/nxt/gateway.dll?f=templates&fn=default.htm&vid=gestiseng:sdbeng>
[data downloaded on 14.02.2019].

(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.

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.

P307+P311 – IF CONTACTED: 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.

P403+P233 – Store in a well-ventilated place. Keep container tightly closed.

P405 – Store locked up.

(vi) Training Advice:

To ensure the protection of people and the environment, people who manufacture, handle and use this product must be trained to work with hazardous substances, hazardous materials, have adequate hygiene skills, first aid principles and information on emergency procedures. This safety data sheet must be made available to those working with the product. Persons must be instructed before working with the product.

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

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.	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...	

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	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	

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

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:

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

	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

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....

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....	

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 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....	

* * * * *

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

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.	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

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

	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

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, 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....

* * * * *

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
-------------------------------	---------

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

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

	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

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

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....	

* * * * *

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%

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

<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
------------------------	---------

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

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. 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....	

* * * * *

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

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 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

<i>Exposure estimation and reference to its source</i>	
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
<i>Guidance to downstream consumers</i>	
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
<i>Operational conditions</i>	
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)
<i>Risk management measures</i>	
Local exhaust ventilation	Effectiveness: 90%
<i>Exposure estimation and reference to its source</i>	
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
<i>Guidance to downstream consumers</i>	
For scaling and further information see www....	

Use descriptor covered	PROC 15
<i>Operational conditions</i>	
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
Risk management measures/Behavioural advice	
Close containers immediately after use. Keep container tightly closed. Avoid skin contact. In case of skin contact wash exposed skin areas immediately.	
Exposure estimation and reference to its source	
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
Guidance to downstream consumers	
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
Operational conditions	
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)
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 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....	