

Methanol with 0.1% Trifluoroacetic acid

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 01/06/2022

Doc No: SDS-947.068/2



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

1.1. Product identifier

Product form : Mixture
Product name : Methanol with 0.1% Trifluoroacetic acid
Type of product : Solution

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemical.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ISOLAB Laborgeräte GmbH
Am Dillhof 2 - 63863 Eschau / GERMANY
Tel: + 49 93 74 / 978 55-0
Fax: +49 93 74 / 978 55-29
prodsafe@isolab.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité CBF, Haus VIII (Wirtschaftgebäude), UG	Hindenburgdamm 30 12203 Berlin	+49 30 19240	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Liq. 2 H225
Acute Tox. 3 (Oral) H301
Acute Tox. 3 (Dermal) H311
Acute Tox. 3 (Inhalation:vapour) H331
STOT SE 1 H370

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. Causes damage to organs. Toxic in contact with skin. Toxic if inhaled. Toxic if swallowed.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazardous ingredients :

Methanol

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapour
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H370 - Causes damage to organs

Precautionary statements (CLP) :

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240: Ground/bond container and receiving equipment.
P280: Wear protective gloves/ protective clothing.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P310: IF exposed or concerned: immediately call a POISON CENTER or doctor/physician.
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.

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2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Methanol	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44	>= 80	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
Trifluoroacetic acid	(CAS-No.) 76-05-1 (EC-No.) 200-929-3 (EC Index-No.) 607-091-00-1	< 10	Acute Tox. 4 (Inhalation), H332 Skin Corr. 1A, H314 Aquatic Chronic 3, H412

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Methanol	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44	(3 <= C < 10) STOT SE 2, H371 (C >= 10) STOT SE 1, H370

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a doctor.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Rinse mouth. Call a physician immediately.

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

No additional information available

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Highly flammable liquid and vapour.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. NO open flames, NO sparks, and NO smoking. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Methanol (67-56-1)		
EU	Local name	Methanol
EU	IOELV TWA (mg/m ³)	260 mg/m ³ (Methanol; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	200 ppm (Methanol; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	Notes	skin
Austria	Local name	Methanol
Austria	MAK (mg/m ³)	260 mg/m ³
Austria	MAK (ppm)	200 ppm
Austria	MAK Short time value (mg/m ³)	1040 mg/m ³
Austria	MAK Short time value (ppm)	800 ppm
Austria	Remark (AT)	H
Belgium	Local name	Alcool méthylique # Methanol
Belgium	Limit value (mg/m ³)	266 mg/m ³ (Alcool méthylique; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	200 ppm (Alcool méthylique; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Short time value (mg/m ³)	333 mg/m ³ (Alcool méthylique; Belgium; Short time value)
Belgium	Short time value (ppm)	250 ppm (Alcool méthylique; Belgium; Short time value)
Belgium	Remark (BE)	D: La mention D signifie que la résorption de l'agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l'exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l'agent dans l'air. # De vermelding D betekent dat de opname van het agens via de huid, de slijmvliezen of de ogen een belangrijk deel van de totale blootstelling vormt. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht.

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Methanol (67-56-1)		
Bulgaria	Local name	Метилев алкохол
Bulgaria	OEL TWA (mg/m ³)	260 mg/m ³
Bulgaria	OEL TWA (ppm)	200 ppm
Bulgaria	Notes	Кожа (възможна е значителна резорбция чрез кожата); • (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Croatia	Local name	Metanol
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	260 mg/m ³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	200 ppm
Croatia	Naznake (HR)	K (Skin): (naznaka da tvar može štetno djelovati kroz kožu); EU** (naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 2006/15/ EC (druga lista)); F (lako zapaljivo); T (otrovno)
Czech Republic	Local name	Methanol
Czech Republic	Expoziční limity (PEL) (mg/m ³)	250 mg/m ³
Czech Republic	Expoziční limity (PEL) (ppm)	189 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	1000 mg/m ³
Czech Republic	Expoziční limity (NPK-P) (ppm)	750 ppm
Czech Republic	Remark (CZ)	D
Denmark	Local name	Methanol (Methylalkohol)
Denmark	Grænseværdie (langvarig) (mg/m ³)	260 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	200 ppm
Denmark	Anmærkninger (DK)	E (betyder, at stoffet har en EF-grænseværdi); H (betyder, at stoffet kan optages gennem huden)
Estonia	Local name	Metanool (metüülalkohol)
Estonia	OEL TWA (mg/m ³)	250 mg/m ³
Estonia	OEL TWA (ppm)	200 ppm
Estonia	OEL STEL (mg/m ³)	350 mg/m ³
Finland	Local name	Metanoli
Finland	HTP-arvo (8h) (mg/m ³)	270 mg/m ³
Finland	HTP-arvo (8h) (ppm)	200 ppm
Finland	HTP-arvo (15 min)	330 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	250 ppm
Finland	Huomautus (FI)	iho
France	Local name	Alcool méthylique (méthanol)
France	VME (mg/m ³)	260 mg/m ³ (Methanol; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VME (ppm)	200 ppm (Methanol; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VLE (mg/m ³)	1300 mg/m ³ (Methanol; France; Short time value; VL: Valeur non réglementaire indicative)
France	VLE (ppm)	1000 ppm (Methanol; France; Short time value; VL: Valeur non réglementaire indicative)
France	Note (FR)	VME réglementaires contraignantes; la VLE n'est pas réglementaire et provient d'une circulaire du ministère chargé du travail; risque de pénétration percutanée
Germany	Local name	Methanol
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	270 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	200 ppm
Germany	Remark (TRGS 900)	DFG,EU,H,Y
Greece	OEL TWA (mg/m ³)	260 mg/m ³

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Methanol (67-56-1)		
Greece	OEL TWA (ppm)	200 ppm
Greece	OEL STEL (mg/m ³)	325 mg/m ³
Greece	OEL STEL (ppm)	250 ppm
Hungary	Local name	METIL-ALKOHOL
Hungary	AK-érték	260 mg/m ³
Hungary	Megjegyzések (HU)	b, i; II.1.
Ireland	Local name	Methanol
Ireland	OEL (8 hours ref) (mg/m ³)	260 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	200 ppm
Ireland	Notes (IE)	Sk, IOELV
Italy	Local name	Metanolo
Italy	OEL TWA (mg/m ³)	260 mg/m ³
Italy	OEL TWA (ppm)	200 ppm
Italy	Notes	pelle
Latvia	Local name	Metanols (metilspirts, karbinols)
Latvia	OEL TWA (mg/m ³)	260 mg/m ³
Latvia	OEL TWA (ppm)	200 ppm
Lithuania	Local name	Metanolis (metilo alkoholis)
Lithuania	IPRV (mg/m ³)	260 mg/m ³
Lithuania	IPRV (ppm)	200 ppm
Lithuania	Remark (LT)	O (medžiaga į organizmą gali prasiskverbti pro nepažeistą odą)
Luxembourg	Local name	Méthanol
Luxembourg	OEL TWA (mg/m ³)	260 mg/m ³
Luxembourg	OEL TWA (ppm)	200 ppm
Malta	Local name	Methanol
Malta	OEL TWA (mg/m ³)	260 mg/m ³
Malta	OEL TWA (ppm)	200 ppm
Netherlands	Local name	Methanol
Netherlands	Grenswaarde TGG 8H (mg/m ³)	133 mg/m ³ (Methanol; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 8H (ppm)	100 ppm (Methanol; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 15MIN (mg/m ³)	266 mg/m ³
Netherlands	Remark (MAC)	H (Huidopname) Stoffen die relatief gemakkelijk door de huid kunnen worden opgenomen, hetgeen een substantiële bijdrage kan betekenen aan de totale inwendige blootstelling, hebben in de lijst een Haanduiding. Bij deze stoffen moeten naast maatregelen tegen inademing ook adequate maatregelen ter voorkoming van huidcontact worden genomen.
Poland	Local name	Metanol (metylowy alkohol)
Poland	NDS (mg/m ³)	100 mg/m ³
Poland	NDSch (mg/m ³)	300 mg/m ³
Portugal	Local name	Metanol (Álcool metílico)
Portugal	OEL TWA (ppm)	200 ppm
Portugal	OEL STEL (ppm)	250 ppm
Romania	Local name	Alcool metilic
Romania	OEL TWA (mg/m ³)	260 mg/m ³
Romania	OEL TWA (ppm)	200 ppm

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Methanol (67-56-1)		
Romania	OEL STEL (ppm)	5 ppm
Slovakia	Local name	Metylalkohol (metanol)
Slovakia	NPHV (priemerná) (mg/m ³)	260 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	200 ppm
Slovakia	Upozornenie (SK)	K - znamená, že faktor môže byť ľahko absorbovaný kožou
Slovenia	Local name	metanol (metilalkohol)
Slovenia	OEL TWA (mg/m ³)	260 mg/m ³
Slovenia	OEL TWA (ppm)	200 ppm
Spain	Local name	Metanol (Alcohol metílico)
Spain	VLA-ED (mg/m ³)	266 mg/m ³
Spain	VLA-ED (ppm)	200 ppm
Spain	Notes	Vía dérmica (Indica que, en las exposiciones a esta sustancia, la aportación por la vía cutánea puede resultar significativa para el contenido corporal total si no se adoptan medidas para prevenir la absorción. En estas situaciones, es aconsejable la utilización del control biológico para poder cuantificar la cantidad global absorbida del contaminante. Para más información véase el Apartado 5 de este documento), VLB® (Agente químico que tiene Valor Límite Biológico específico en este documento), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
Sweden	Local name	Metanol
Sweden	nivågränsvärde (NVG) (mg/m ³)	250 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	200 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	350 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	250 ppm
Sweden	Anmärkning (SE)	H (Ämnet kan lätt upptas genom huden Det föreskrivna gränsvärdet bedöms ge tillräckligt skydd endast under förutsättning att huden är skyddad mot exponering för ämnet ifråga); V (Vägledande korttidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas)
United Kingdom	Local name	Methanol
United Kingdom	WEL TWA (mg/m ³)	266 mg/m ³ Methanol; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	200 ppm Methanol; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (mg/m ³)	333 mg/m ³ Methanol; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (ppm)	250 ppm Methanol; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
United Kingdom	Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Russian Federation	Local name	Метанол+
Russian Federation	OEL Ceiling (mg/m ³)	15 mg/m ³

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Methanol (67-56-1)		
Russian Federation	OEL TWA (mg/m ³)	5 mg/m ³
Russian Federation	Remark (RU)	3 класс опасности - опасное; п (пары и/или газы); + (соединения, при работе с которыми требуется специальная защита кожи и глаз; символ проставлен вслед за наименованием вещества)
Norway	Local name	Metanol
Norway	Grenseverdier (AN) (mg/m ³)	130 mg/m ³
Norway	Grenseverdier (AN) (ppm)	100 ppm
Norway	Merknader (NO)	H (Kjemikalier som kan tas opp gjennom huden); E (EU har en veiledende grenseverdi for stoffet)
Switzerland	Local name	Methanol
Switzerland	MAK (mg/m ³)	260 mg/m ³ 260 mg/m ³
Switzerland	MAK (ppm)	200 ppm 200 ppm
Switzerland	KZGW (mg/m ³)	1040 mg/m ³ 1040 mg/m ³
Switzerland	KZGW (ppm)	800 ppm 800 ppm
Switzerland	Remark (CH)	H B SS _c - ZNS, Sehen - INRS, NIOSH
Turkey	Local name	Metanol
Turkey	OEL TWA (mg/m ³)	260 mg/m ³
Turkey	OEL TWA (ppm)	200 ppm
Turkey	Comments	Deri
Australia	Local name	Methyl alcohol
Australia	TWA (mg/m ³)	262 mg/m ³ Synonym (Methanol)
Australia	TWA (ppm)	200 ppm Synonym (Methanol)
Australia	STEL (mg/m ³)	328 mg/m ³ Synonym (Methanol)
Australia	STEL (ppm)	250 ppm Synonym (Methanol)
Australia	Remark (AU)	Sk - Absorption through the skin may be a significant source of exposure.
USA - ACGIH	Local name	Methanol
USA - ACGIH	ACGIH TWA (ppm)	200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA - ACGIH	ACGIH STEL (ppm)	250 ppm (Methanol; USA; Short time value; TLV - Adopted Value)
USA - ACGIH	Remark (ACGIH)	Headache; eye dam; dizziness; nausea
USA - OSHA	Local name	Methyl alcohol
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	260 mg/m ³
USA - OSHA	OSHA PEL (TWA) (ppm)	200 ppm
Trifluoroacetic acid (76-05-1)		
USA - ACGIH	ACGIH TWA (mg/m ³)	2.5 mg/m ³ (Fluorides, as F; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Gloves. Safety glasses.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

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Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear respiratory protection



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Colour	: Colourless.
Odour	: Alcohol odour.
Odour threshold	: $\approx 2000 - 8800$ ppm $\approx 2620 - 11528$ mg/m ³
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: ≈ -98 °C
Freezing point	: No data available
Boiling point	: ≈ 64.5 °C (1013 hPa)
Flash point	: ≈ 10 °C
Auto-ignition temperature	: ≈ 455 °C (1013 hPa)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: ≈ 128 hPa (20 °C)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: ≈ 0.792 g/cm ³ (20 °C)
Solubility	: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 5.5 - 44 %(V)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

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10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Toxic in contact with skin. Inhalation:vapour: Toxic if inhaled.

ATE CLP (oral)	100.1001001001 mg/kg bodyweight
ATE CLP (dermal)	300.3003003003 mg/kg bodyweight
ATE CLP (vapours)	3.003003003 mg/l/4h

Methanol (67-56-1)	
LD50 oral rat	> 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 oral	5628 mg/kg bodyweight
LD50 dermal rabbit	15800 mg/kg (Rabbit; Literature study)
LD50 dermal	15800 mg/kg bodyweight
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat; Literature study)
LC50 inhalation rat (Dust/Mist - mg/l/4h)	85000 mg/l

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Causes damage to organs.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Methanol (67-56-1)	
LC50 fish 1	15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)
LC50 fish 2	10800 mg/l (LC50; 96 h; Salmo gairdneri)
EC50 Daphnia 1	> 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
EC50 other aquatic organisms 1	10000 mg/l waterflea
EC50 other aquatic organisms 2	12000 mg/l

Trifluoroacetic acid (76-05-1)	
LC50 fish 1	> 1200 mg/l (LC50; 96 h)
EC50 Daphnia 1	55 mg/l (EC50; 24 h)
EC50 other aquatic organisms 1	160 mg/l (72 h; Selenastrum capricornutum)

12.2. Persistence and degradability

Methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.5 g O ₂ /g substance

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Methanol (67-56-1)	
BOD (% of ThOD)	0.8 (Literature study)

Trifluoroacetic acid (76-05-1)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

Methanol (67-56-1)	
BCF fish 1	< 10 (BCF; 72 h; Leuciscus idus)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Trifluoroacetic acid (76-05-1)	
BCF fish 1	2 (BCF)
Log Pow	-4.1 - 0.325
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)
Log Koc	Koc,PCKOCWIN v1.66; 1; Calculated value

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1230	1230	1230	1230	1230
14.2. UN proper shipping name				
METHANOL	METHANOL	Methanol	METHANOL	METHANOL
Transport document description				
UN 1230 METHANOL, 3 (6.1), II, (D/E)	UN 1230 METHANOL, 3 (6.1), II (12°C c.c.)	UN 1230 Methanol, 3 (6.1), II	UN 1230 METHANOL, 3 (6.1), II	UN 1230 METHANOL, 3 (6.1), II
14.3. Transport hazard class(es)				
3 (6.1)	3 (6.1)	3 (6.1)	3 (6.1)	3 (6.1)
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : FT1

Special provisions (ADR) : 279

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Limited quantities (ADR)	: 11
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T7
Portable tank and bulk container special provisions (ADR)	: TP2
Tank code (ADR)	: L4BH
Tank special provisions (ADR)	: TU15
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13, CV28
Special provisions for carriage - Operation (ADR)	: S2, S19
Hazard identification number (Kemler No.)	: 336
Orange plates	:

336

1230

Tunnel restriction code (ADR) : D/E

- Transport by sea

Special provisions (IMDG)	: 279
Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP2
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-D
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: SW2
Flash point (IMDG)	: 12°C c.c.
Properties and observations (IMDG)	: Colourless, volatile liquid. Flashpoint: 12°C c.c. Explosive limits: 6% to 36.5% Miscible with water. Toxic if swallowed; may cause blindness. Avoid skin contact.
MFAG-No	: 131

- Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 352
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 364
CAO max net quantity (IATA)	: 60L
Special provisions (IATA)	: A113
ERG code (IATA)	: 3L

- Inland waterway transport

Classification code (ADN)	: FT1
Special provisions (ADN)	: 279, 802
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E2
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EP, EX, TOX, A

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Ventilation (ADN) : VE01, VE02
Number of blue cones/lights (ADN) : 2

- Rail transport

Classification code (RID) : FT1
Special provisions (RID) : 279
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC02
Mixed packing provisions (RID) : MP19
Portable tank and bulk container instructions (RID) : T7
Portable tank and bulk container special provisions (RID) : TP2
Tank codes for RID tanks (RID) : L4BH
Special provisions for RID tanks (RID) : TU15
Transport category (RID) : 2
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28
Colis express (express parcels) (RID) : CE7
Hazard identification number (RID) : 336

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 4)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed
SZW-lijst van mutagene stoffen : None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : Methanol is listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed
Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources : 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.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Flam. Liq. 2	Flammable liquids, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
STOT SE 1	Specific target organ toxicity — single exposure, Category 1
H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled
H332	Harmful if inhaled
H370	Causes damage to organs
H412	Harmful to aquatic life with long lasting effects

SDS ISOLAB

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product