

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 8 Mar 2024

Print date: 17 Mar 2024

Version: 1



MERCURIA  
BIOFUELS BRUNSBÜTTEL GMBH & CO KG

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## Methanol

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

#### 1.1. Product identifier

Trade name/designation:

Methanol

**CAS No.:**

67-56-1

**Index No.:**

603-001-00-X

**EC No.:**

200-659-6

**REACH No.:**

01-2119433307-44-XXXX

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

Use of the substance/mixture:

Intermediate

Relevant identified uses:

##### Life cycle stage [LCS]

**F:** Formulation or re-packing

**IS:** Use at industrial sites

**PW:** Widespread use by professional workers

##### Sector of uses [SU]

**SU 8:** Manufacture of bulk, large scale chemicals (including petroleum products)

**SU 9:** Manufacture of fine chemicals

**SU 23:** Electricity, steam, gas water supply and sewage treatment

**SU 24:** Scientific research and development

##### Product Categories [PC]

**PC 0:** Other

**PC 4:** Anti-freeze and de-icing products

**PC 13:** Fuels

**PC 21:** Laboratory chemicals

**PC 35:** Washing and cleaning products

**PC 40:** Extraction agents

##### Process categories [PROC]

**PROC 1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

**PROC 2:** Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

**PROC 3:** Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

**PROC 5:** Mixing or blending in batch processes

**PROC 8a:** Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

**PROC 8b:** Transfer of substance or mixture (charging and discharging) at dedicated facilities

**PROC 10:** Roller application or brushing

**PROC 13:** Treatment of articles by dipping and pouring

**PROC 15:** Use as laboratory reagent

**PROC 16:** Use of fuels

##### Environmental release categories [ERC]

**ERC 2:** Formulation into mixture (mixtures)

**ERC 4:** Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

**ERC 6a:** Use of intermediate

**ERC 6b:** Use of reactive processing aid at industrial site (no inclusion into or onto article)

**ERC 7:** Use of functional fluid at industrial site

**ERC 8a:** Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

**ERC 8b:** Widespread use of reactive processing aid (no inclusion into or onto article, indoor)

**ERC 8e:** Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)

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## Methanol

### 1.3. Details of the supplier of the safety data sheet

#### Supplier (manufacturer/importer/only representative/downstream user/distributor):

**Mercuria Biofuels Brunsbüttel GmbH & Co. KG**

Fährstr. 51  
25541 Brunsbüttel  
Germany

**Telephone:** +49 4852 836 8035

**Telefax:** +49 4852 836 8003

**E-mail:** fwerner@mercuria.com

**E-mail (competent person):** fwerner@mercuria.com

### 1.4. Emergency telephone number

GIZ Nord, 24h: +49 (5 51) 1 92 40

Company: Laboratory Manager, +49 4852 836 8035 (Only available during office hours.)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
flammable liquids ( <i>Flam. Liq. 2</i> )	H225: Highly flammable liquid and vapour.	
Acute toxicity (oral) ( <i>Acute Tox. 3</i> )	H301: Toxic if swallowed.	
Acute toxicity (dermal) ( <i>Acute Tox. 3</i> )	H311: Toxic in contact with skin.	
Acute toxicity (inhalative) ( <i>Acute Tox. 3</i> )	H331: Toxic if inhaled.	
STOT-single exposure ( <i>STOT SE 1</i> )	H370: Causes damage to organs.	

### 2.2. Label elements

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

##### Hazard pictograms:



**GHS02**  
Flame



**GHS06**  
Skull and crossbones



**GHS08**  
Health hazard

##### Signal word: Danger

Hazard statements for physical hazards	
H225	Highly flammable liquid and vapour.

Hazard statements for health hazards	
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.

Precautionary statements	
P102	Keep out of reach of children.

Precautionary statements Prevention	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.

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### Precautionary statements Prevention

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

### Precautionary statements Response

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

P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/...

### Precautionary statements Storage

P405 Store locked up.


## 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 67-56-1 EC No.: 200-659-6 Index No.: 603-001-00-X REACH No.: 01-2119433307-44-XXXX	<b>methanol</b> Acute Tox. 3 (H331, H311, H301), Flam. Liq. 2 (H225), STOT SE 1 (H370**)  Danger <b>Specific concentration limit (SCL)</b> STOT SE 1; H370: C ≥ 10% STOT SE 2; H371: 3% ≤ C < 10%	

Full text of H- and EUH-phrases: see section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information:

Remove affected person from the danger area and lay down.

#### Following inhalation:

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Where appropriate artificial ventilation.

#### In case of skin contact:

Remove/Take off immediately all contaminated clothing.

Toxic in contact with skin. After contact with skin, first remove product with a dry cloth and then wash the skin with plenty of water. Get medical advice/attention.

#### After eye contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

#### Following ingestion:

Toxic if swallowed.

Rinse mouth thoroughly with water.

Never give anything by mouth to an unconscious person or a person with cramps.

If conscious, give 200 mL of ethanol (40%) to drink immediately.

#### Self-protection of the first aider:

No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

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

Ingestion causes nausea, weakness and central nervous system effects.

Damage to the optic nerve - can lead to blindness even at medium doses.

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

No data available

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing media:**

Water spray jet, alcohol resistant foam, Carbon dioxide (CO<sub>2</sub>), Dry extinguishing powder

**Unsuitable extinguishing media:**

Full water jet

#### 5.2. Special hazards arising from the substance or mixture

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

**Hazardous combustion products:**

Carbon monoxide, Carbon dioxide (CO<sub>2</sub>)

#### 5.3. Advice for firefighters

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.

Cool containers at risk

#### 5.4. Additional information

Wear a self-contained breathing apparatus and chemical protective clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

**Personal precautions:**

Wear personal protection equipment.

Do not breathe vapour.

Provide adequate ventilation.

**Protective equipment:**

Refer to section 5.3

**Emergency procedures:**

Refer to section 15 (Störfallverordnung (12. BImSchV))

##### 6.1.2. For emergency responders

**Personal protection equipment:**

Wear a self-contained breathing apparatus and chemical protective clothing.

#### 6.2. Environmental precautions

Nicht in die Kanalisation gelangen lassen.

#### 6.3. Methods and material for containment and cleaning up

**For containment:**

Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

Use explosion-proof machinery, apparatus, ventilation facilities, tools etc.

**For cleaning up:**

Soak up inert absorbent and dispose as waste requiring special attention.

Collect in closed containers for disposal.

Explosion risk.

#### 6.4. Reference to other sections

If appropriate sections 8 and 13 shall be referred to.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Protective measures

##### Advices on safe handling:

- Provide adequate ventilation as well as local exhaustion at critical locations.
- Wear personal protection equipment (refer to section 8).
- Direct contact with the substance should be avoided.

##### Fire prevent measures:

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Take precautionary measures against static discharge.

##### Measures to prevent aerosol and dust generation:

- Do not use for injecting or spraying.

##### Environmental precautions:

- Do not allow to enter into surface water or drains.

##### Advices on general occupational hygiene

- Immediately remove any contaminated clothing, shoes or stockings. Wash contaminated clothing before reuse.
- When using do not eat, drink, smoke, sniff.
- Street clothing should be stored separately from work clothing.
- Wash hands and face before breaks and after work and take a shower if necessary.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### Technical measures and storage conditions:

- Keep in a cool, well-ventilated place.

**Storage class (TRGS 510, Germany):** 3 - Flammable liquids

#### 7.3. Specific end use(s)

No data available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
IOELV (EU)	<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	① 200 ppm (260 mg/m <sup>3</sup> ) ⑤ (may be absorbed through the skin)
TRGS 900 (DE) from 13 Mar 2020	<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	① 100 ppm (130 mg/m <sup>3</sup> ) ② 200 ppm (260 mg/m <sup>3</sup> ) ⑤ (kann über die Haut aufgenommen werden) DFG, EU, H, Y

##### 8.1.2. Biological limit values

Limit value type (country of origin)	Substance name	Limit value	① Parameter ② Test material ③ Time of sampling: ④ Remark
TRGS 903 (DE) from 13 Mar 2020	<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	15 mg/L	① Methanol ② Urin ③ bei Langzeitexposition, Expositionsende bzw. Schichtende

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### 8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	130 mg/m <sup>3</sup>	① DNEL worker ② Long-term - inhalation, systemic effects
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	130 mg/m <sup>3</sup>	① DNEL worker ② Acute - inhalation, systemic effects
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	130 mg/m <sup>3</sup>	① DNEL worker ② Long-term - inhalation, local effects
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	130 mg/m <sup>3</sup>	① DNEL worker ② Acute - inhalation, local effects
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	20 mg/kg bw/ day	① DNEL worker ② Long-term - dermal, systemic effects
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	20 mg/kg bw/ day	① DNEL worker ② Acute - dermal, systemic effects

Substance name	PNEC Value	① PNEC type ② Exposure time
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	20.8 mg/L	① PNEC aquatic, freshwater ② 24 h
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	2.08 mg/L	① PNEC aquatic, marine water ② 24 h
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	100 mg/L	① PNEC sewage treatment plant ② 24 h
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	77 mg/kg	① PNEC sediment, freshwater ② 24 h
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	7.7 mL/kg	① PNEC sediment, marine water ② 24 h
<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6	100 mg/kg	① PNEC soil ② 24 h

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

Exposure controls

### 8.2.2. Personal protection equipment



#### Eye/face protection:

Wear eye protection/face protection.

#### Skin protection:

Chemical protection clothing

Wear protective gloves. Suitable material: Butyl caoutchouc (butyl rubber)

Thickness of the glove material: 0.7 mm (Breakthrough times and swelling properties of the material must be taken into consideration., > 480 min)

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### Respiratory protection:

Carry out filling operations only at stations with exhaust ventilation facilities.  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

### Other protection measures:

This material can accumulate static charge by flow or agitation and can be ignited by static discharge.  
Take precautionary measures against static discharge.

### 8.2.3. Environmental exposure controls

The substance should only be handled in closed apparatus or systems.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

Physical state: liquid:

Colour: colourless

Odour: stinging

Odour threshold: 2000 ppm

#### Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	<i>not applicable</i>		
Melting point	≈ -97.8 °C		
Freezing point	<i>No data available</i>		
Initial boiling point and boiling range	≈ 64.7 °C		
Flash point	≈ 9.7 °C		
Evaporation rate	<i>No data available</i>		
Auto-ignition temperature	<i>No data available</i>		
Upper/lower flammability or explosive limits	≥ 7.3 - ≤ 36 Vol-%		② Vapours can form explosive mixtures with air.
Vapour pressure	≈ 169.27 hPa	25 °C	
Vapour density	<i>No data available</i>		
Density	<i>No data available</i>		
Relative density	≥ 0.79 - ≤ 0.8	25 °C	
Bulk density	<i>not applicable</i>		
Water solubility			② completely miscible
Partition coefficient: n-octanol/water	≈ -0.77		
Dynamic viscosity	≥ 0.544 - ≤ 0.59 mPa*s	25 °C	
Kinematic viscosity	<i>No data available</i>		
Self ignition temperature	≈ 455 °C		

### 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Highly flammable liquid and vapour.

### 10.2. Chemical stability

Substance is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3. Possibility of hazardous reactions

Violent reaction with:

Oxidising agent, strong

Acids



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## Methanol

### 10.4. Conditions to avoid

Heating may cause a fire or explosion.

### 10.5. Incompatible materials

No data available

### 10.6. Hazardous decomposition products

In combustion emits toxic fumes of carbon dioxide / carbon monoxide. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

<b>methanol</b> CAS No.: 67-56-1 EC No.: 200-659-6
<b>LD<sub>50</sub> oral:</b> 5,628 mg/kg (Rat) OECD
<b>LD<sub>50</sub> dermal:</b> 17,100 mL/kg (Rabbit) OECD
<b>LC<sub>50</sub> Acute inhalation toxicity (gas):</b> 85.26 mg/L 4 h (Rat) OECD

#### Skin corrosion/irritation:

no classification

#### Serious eye damage/irritation:

Refer to section "Dermal specific target organ toxicity (single exposure)" / "Dermal specific target organ toxicity (repeated exposure)"

#### Respiratory or skin sensitisation:

no classification

#### Germ cell mutagenicity:

no classification

#### Carcinogenicity:

no classification

#### Reproductive toxicity:

no classification

#### STOT-single exposure:

central nervous system, Damage to the optic nerve - can lead to blindness even at medium doses.

#### STOT-repeated exposure:

central nervous system, Damage to the optic nerve - can lead to blindness even at medium doses.

#### Aspiration hazard:

no classification

### 11.2. Information on other hazards

#### Endocrine disrupting properties:

This substance does not have endocrine disrupting properties with respect to humans.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Aquatic toxicity:

LC<sub>50</sub> fish, 1 (96h) 15400 - 28100 mg/l

EC<sub>50</sub> Daphnia 1 (48h) > 10000 mg/l Daphnia magna

LC<sub>50</sub> fish, 2 > 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

ErC<sub>50</sub> (Algae/water plant) 22000 mg/l Pseudokirchneriella subcapitata

NOEC (Chronic effect) Fische (200h) 7900 mg/l (aquatic, freshwater)

#### Sediment toxicity:

No data available

#### Terrestrial toxicity:

No data available

#### Effects in sewage plants:

Can be used as an easily degradable carbon carrier



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### 12.2. Persistence and degradability

#### Abiotic degradation:

No data available

#### Biodegradation:

Readily biodegradable (according to OECD criteria).

### 12.3. Bioaccumulative potential

#### Bioconcentration factor (BCF):

< 10

#### Partition coefficient: n-octanol/water:

≈ -0.77

#### Accumulation / Evaluation:

No indication of bioaccumulation potential.

### 12.4. Mobility in soil

If product enters soil, it will be mobile and may contaminate groundwater.

### 12.5. Results of PBT and vPvB assessment

methanol	CAS No.: 67-56-1	EC No.: 200-659-6
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Results of PBT and vPvB assessment: —
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The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

### 12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

### 12.7. Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Incineration is recommended.

#### 13.1.1. Product/Packaging disposal

#### Waste codes/waste designations according to EWC/AVV

##### Waste code product

07 01 04 *	other organic solvents, washing liquids and mother liquors
------------	--

\*: Evidence for disposal must be provided.

##### Waste code packaging

15 01 10 *	packaging containing residues of or contaminated by dangerous substances
------------	--

\*: Evidence for disposal must be provided.

#### Waste treatment options

##### Appropriate disposal / Product:

Delivery to an approved waste disposal company.

##### Appropriate disposal / Package:

Delivery to an approved waste disposal company.

##### Other disposal recommendations:

Recycling is preferable to disposal.

## SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
<b>14.1. UN number or ID number</b>			
UN 1230	UN 1230	UN 1230	UN 1230
<b>14.2. UN proper shipping name</b>			
METHANOL (UN 1230 METHANOL, 3 (6.1), II, (D/E))	METHANOL (UN 1230 METHANOL, 3 (6.1), II)	METHANOL (UN 1230 METHANOL, 3 (6.1), II (12°C c.c.))	METHANOL (UN 1230 METHANOL, 3 (6.1), II)

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Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
<b>14.3. Transport hazard class(es)</b>			
  3 6.1	  3 6.1	  3 6.1	  3 6.1
<b>14.4. Packing group</b>			
II	II	II	II
<b>14.5. Environmental hazards</b>			
No	No	No	No
<b>14.6. Special precautions for user</b>			
<b>Special Provisions:</b> 279, MP19, TP2, CV13, CV28, S2, S19 <b>Limited quantity (LQ):</b> 1 L <b>Excepted Quantities (EQ):</b> E2 <b>Hazard identification number (Kemler No.):</b> 336 <b>Classification code:</b> FT1 <b>Tunnel restriction code:</b> (D/E)	<b>Special Provisions:</b> 279, 802 <b>Limited quantity (LQ):</b> 1 L <b>Excepted Quantities (EQ):</b> E2 <b>Classification code:</b> FT1	<b>Special Provisions:</b> 279, P001, IBC02T7, TP2, SW2 <b>Limited quantity (LQ):</b> 1 L <b>Excepted Quantities (EQ):</b> E2 <b>EmS-No.:</b> F-E <b>Remark:</b> S-D	<b>Special Provisions:</b> Y341, 352, 364, A113 <b>Limited quantity (LQ):</b> 1 L <b>Excepted Quantities (EQ):</b> E2

### 14.7. Maritime transport in bulk according to IMO instruments

Name: Methyl alcohol  
Ship: Typ 3  
Cat: Y

## SECTION 15: Regulatory information

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

#### 15.1.1. EU legislation

##### Other regulations (EU):

Hazard categories:

- H2 Acute toxic
- H3 STOT SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE STOT SE, Category 1
- P5a Flammable Liquids, Category 1 or 2
- P5b Flammable liquids
- P5c Flammable liquids of Categories 2 or 3, not covered by P5a and P5b

Named dangerous substances:

- Methanol

##### Directive 2004/42/EC on the limitation of emissions of volatile organic compounds:

Volatile organic compounds (VOC) content in percent by weight: 100 weight-%

#### 15.1.2. National regulations

##### [DE] National regulations

##### Störfallverordnung (12. BImSchV)

for substances contained in the product:

Hazard categories:

- H2 Acute toxic
- H3 STOT SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE STOT SE, Category 1
- P5a Flammable Liquids, Category 1 or 2

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- P5b Flammable liquids
- P5c Flammable liquids of Categories 2 or 3, not covered by P5a and P5b

Named dangerous substances:

- Methanol

### Water hazard class

#### WGK:

2 - obviously hazardous to water

#### Source:

AwSV, RIGOLETTO: 145

### 15.2. Chemical Safety Assessment

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

## SECTION 16: Other information

### 16.1. Indication of changes

No data available

### 16.2. Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
DNEL	derived no-effect level
ERC	Environmental Release Category
ES	Exposure scenario
IMO	International Maritime Organization
KG	body weight
LC <sub>50</sub>	Lethal (fatal) Concentration 50%
LD <sub>50</sub>	Lethal (fatal) Dose 50%
MAK	Maximum concentration in the workplace air (CH)
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
OECD	Organisation for Economic Cooperation and Development
OEL	Threshold Limit Value
OSHA	Occupational Safety & Health Administration
PBT	persistent and bioaccumulative and toxic
PC	Product category
PNEC	Predicted No Effect Concentration
PROC	Process Category
REACH	Registration, Evaluation and Authorization of Chemicals
SCL	Specific concentration limit
SU	use category
TRGS	Technische Regeln für Gefahrstoffe
UN	United Nations
VOC	Volatile organic compounds
ZNS	central nervous system

CSA: Chemical Safety Assessment

PBT: Substance with persistent, bioaccumulative and toxic properties.

vPvB: Substance with very persistent and very bioaccumulative properties.

MFSU: Manufacture, formulation, supply and use

Rigoletto: Database of the German Federal Environmental Agency, which contains the classification of substances according to their water hazard class (<https://webigoletto.uba.de/Rigoletto/Home/Search>).

### 16.3. Key literature references and sources for data

No data available

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

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MERCURIA  
BIOFUELS BRUNSBÜTTEL GMBH & CO KG

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## Methanol

### 16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
flammable liquids ( <i>Flam. Liq. 2</i> )	H225: Highly flammable liquid and vapour.	
Acute toxicity (oral) ( <i>Acute Tox. 3</i> )	H301: Toxic if swallowed.	
Acute toxicity (dermal) ( <i>Acute Tox. 3</i> )	H311: Toxic in contact with skin.	
Acute toxicity (inhalative) ( <i>Acute Tox. 3</i> )	H331: Toxic if inhaled.	
STOT-single exposure ( <i>STOT SE 1</i> )	H370: Causes damage to organs.	

### 16.5. List of relevant hazard statements and/or precautionary statements from sections 2 to 15

Hazard statements	
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H371	May cause damage to organs.

### 16.6. Training advice

No data available

### 16.7. Additional information

Given data sheets are based on our present experiences, however they are no assurance of product properties and do not justify a contractual legal relationship.

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## 1. Exposure scenario 02

### Distribution of substance

ES Ref.: 02  
ES Type: Worker

Use descriptors	PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9 SU3, SU8, SU9 ERC1, ERC2
Processes, tasks activities covered	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, distribution and associated laboratory activities. Industrial use
Assessment method	see section 3 of this exposure scenario.

## 0. Operational conditions and risk management measures

### 2.1.1 Contributing scenario controlling worker exposure (PROC1, PROC2, PROC3, PROC4)

PROC1	Use in closed process, no likelihood of exposure
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC3	Use in closed batch process (synthesis or formulation)
PROC4	Use in batch and other process (synthesis) where opportunity for exposure arises

#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

#### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palm of one hand (240cm <sup>2</sup> ) (PROC 1 & 3)
	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) (PROC 2 & 4)
Other given operational conditions affecting workers exposure	Indoor use	

#### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	PROC 1
	with local exhaust ventilation, Effectiveness : 90%	PROC 2, 3 & 4
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.1.2 Contributing scenario controlling worker exposure (PROC8a, PROC8b, PROC9)

PROC8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
PROC8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) (PROC 8b & 9)
	dermal exposure	Both hands (960 cm <sup>2</sup> ) (PROC 8a)
Other given operational conditions affecting workers exposure	Indoor use	

## Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 90%	PROC 8a & 9
	with local exhaust ventilation, Effectiveness : 97%	PROC 8b
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

## 2.2 Contributing scenario controlling environmental exposure (ERC1, ERC2)

Not applicable

ERC1	Manufacture of substances
ERC2	Formulation of preparations

## Product characteristics

No additional information

## Operational conditions

No additional information

## Risk management measures

No additional information

## 3. Exposure estimation and reference to its source

### 3.1. Health

Information for contributing exposure scenario	
2.1.1	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated, (ECETOC TRA v2.0 Worker; modified version)
2.1.2	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated, (ECETOC TRA v2.0 Worker; modified version)

### 3.2. Environment

Information for contributing exposure scenario	
2.2	Not applicable

## 0. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

### 4.1. Health

Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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### 4.2. Environment

Guidance - Environment	Not required
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# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## 1. Exposure scenario 03

### Formulation & (re)packing of substances and mixtures

ES Ref.: 03 ES  
Type: Worker

Use descriptors	PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15 SU3, SU10 ERC2
Processes, tasks activities covered	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 Industrial use
Assessment method	see section 3 of this exposure scenario.

## 1. Operational conditions and risk management measures

### 2.1.1 Contributing scenario controlling worker exposure (PROC1, PROC2, PROC3, PROC4, PROC5)

PROC1	Use in closed process, no likelihood of exposure
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC3	Use in closed batch process (synthesis or formulation)
PROC4	Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5	Mixing or blending in batch processes

### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palm of one hand (240cm <sup>2</sup> ) (PROC 1 & 3)
	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) (PROC 2, 4 & 5)
Other given operational conditions affecting workers exposure	Indoor use	

### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	PROC 1
	with local exhaust ventilation, Effectiveness : 90%	PROC 2, 3, 4 & 5
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.1.2 Contributing scenario controlling worker exposure (PROC8a, PROC8b, PROC9)

PROC8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
PROC8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

### Product characteristics

Physical form	Liquid
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Annex Exposition scenarios (ES)  
to Safety Data Sheet of  
**Methanol**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) (PROC 8b & 9)
	dermal exposure	Both hands (960 cm <sup>2</sup> ) (PROC 8a)
Other given operational conditions affecting workers exposure	Indoor use	

**Risk management measures**

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 90%	PROC 8a & 9
	with local exhaust ventilation, Effectiveness : 97%	PROC 8b
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

**2.1.3 Contributing scenario controlling worker exposure (PROC15)**

PROC15	Use as laboratory reagent
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**Product characteristics**

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palm of one hand (240cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

**Risk management measures**

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 90%	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

**2.2 Contributing scenario controlling environmental exposure (ERC2)**

Not applicable	
ERC2	Formulation of preparations

**Product characteristics**

No additional information

**Operational conditions**

No additional information

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## Risk management measures

No additional information

### 3. Exposure estimation and reference to its source

#### 3.1. Health

Information for contributing exposure scenario	
2.1.1	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.2	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.3	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)

#### 3.2. Environment

Information for contributing exposure scenario	
2.2	Not applicable

### 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

#### 4.1. Health

Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented,Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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#### 4.2. Environment

Guidance - Environment	Not required
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# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## 1. Exposure scenario 04

### Use as a fuel

ES Ref.: 04  
ES Type: Worker

Use descriptors	PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16, PROC19 SU3 ERC7
Processes, tasks activities covered	Covers the use as a fuel (or fuel additive), and includes activities associated with its transfer, use, equipment maintenance and handling of waste. Industrial use
Assessment method	see section 3 of this exposure scenario.

## 2. Operational conditions and risk management measures

### 2.1.1 Contributing scenario controlling worker exposure (PROC1, PROC2, PROC3)

PROC1	Use in closed process, no likelihood of exposure
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC3	Use in closed batch process (synthesis or formulation)

#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

#### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palm of one hand (240cm <sup>2</sup> ) (PROC 1 & 3)
	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) (PROC 2)
Other given operational conditions affecting workers exposure	Indoor use	

#### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	PROC 1
	with local exhaust ventilation, Effectiveness : 90%	PROC 2 & 3
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.1.2 Contributing scenario controlling worker exposure (PROC8a, PROC8b)

PROC8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
PROC8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

#### Operational conditions

Amount used	not relevant
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# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) (PROC 8b)
	dermal exposure	Both hands (960 cm <sup>2</sup> ) (PROC 8a)
Other given operational conditions affecting workers exposure	Indoor use	

### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 90%	PROC 8a
	with local exhaust ventilation, Effectiveness : 97%	PROC 8b
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.1.3 Contributing scenario controlling worker exposure (PROC16)

PROC16 Using material as fuel sources, limited exposure to unburned product to be expected

### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palm of one hand (240cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.1.4 Contributing scenario controlling worker exposure (PROC19)

PROC19 Hand-mixing with intimate contact and only PPE available

### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 10%, Unless otherwise stated
Vapour pressure	169,27 hPa

### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	1 - 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	both hands and forearms (1980 cm <sup>2</sup> )

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**



Other given operational conditions affecting workers exposure	Indoor use	
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### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required
	Protective gloves	yes

### 2.2 Contributing scenario controlling environmental exposure (ERC7)

Not applicable	
ERC7	Industrial use of substances in closed systems

### Product characteristics

No additional information

### Operational conditions

No additional information

### Risk management measures

No additional information

## 3. Exposure estimation and reference to its source

### 3.1. Health

Information for contributing exposure scenario	
2.1.1	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.2	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.3	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.4	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)

### 3.2. Environment

Information for contributing exposure scenario	
2.2	As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed

## 5. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

### 4.1. Health

Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented,Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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### 4.2. Environment

Guidance - Environment	Not required
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# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## 1. Exposure scenario 05

### Use as a fuel

ES Ref.: 05  
ES Type: Worker

Use descriptors	PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16, PROC19 SU22 ERC8b, ERC8e
Processes, tasks activities covered	Covers the use as a fuel (or fuel additive), and includes activities associated with its transfer, use, equipment maintenance and handling of waste. Professional use
Assessment method	see section 3 of this exposure scenario.

## 3. Operational conditions and risk management measures

### 2.1.1 Contributing scenario controlling worker exposure (PROC1, PROC2, PROC3)

PROC1	Use in closed process, no likelihood of exposure
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC3	Use in closed batch process (synthesis or formulation)

#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

#### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palm of one hand (240cm <sup>2</sup> ) (PROC 1 & 3)
	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) (PROC 2)
Other given operational conditions affecting workers exposure	Indoor use	

#### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	PROC 1
	with local exhaust ventilation, Effectiveness : 80%	PROC 2 & 3
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.1.2 Contributing scenario controlling worker exposure (PROC8a, PROC8b)

PROC8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
PROC8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%, Unless otherwise stated
Vapour pressure	169,27 hPa

#### Operational conditions

Amount used	not relevant
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# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

Frequency and duration of use	Exposure duration	1 - 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) 8b
	dermal exposure	Both hands (960 cm <sup>2</sup> ) 8a
Other given operational conditions affecting workers exposure	Indoor use	

### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.1.3 Contributing scenario controlling worker exposure (PROC16)

PROC16	Using material as fuel sources, limited exposure to unburned product to be expected
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### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palm of one hand (240cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.1.4 Contributing scenario controlling worker exposure (PROC19)

PROC19	Hand-mixing with intimate contact and only PPE available
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### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 10%, Unless otherwise stated
Vapour pressure	169,27 hPa

### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	1 - 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	both hands and forearms (1980 cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	



# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required
	Protective gloves	yes

## 2.2 Contributing scenario controlling environmental exposure (ERC8b, ERC8e)

Not applicable

ERC8b	Wide dispersive indoor use of reactive substances in open systems
ERC8e	Wide dispersive outdoor use of reactive substances in open systems

## Product characteristics

No additional information

## Operational conditions

No additional information

## Risk management measures

No additional information

## 3. Exposure estimation and reference to its source

### 3.1. Health

Information for contributing exposure scenario

2.1.1	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.2	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.3	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.4	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)

### 3.2. Environment

Information for contributing exposure scenario

2.2	Not applicable
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## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

### 4.1. Health

Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented,Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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### 4.2. Environment

Guidance - Environment	Not required
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## 1. Exposure scenario 06

### Use in cleaning agents

ES Ref.: 06  
ES Type: Worker

Use descriptors	PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13 SU3 ERC4
Processes, tasks activities covered	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. Industrial use
Assessment method	see section 3 of this exposure scenario.

## 5. Operational conditions and risk management measures

### 2.1.1 Contributing scenario controlling worker exposure (PROC1, PROC2, PROC3, PROC4)

PROC1	Use in closed process, no likelihood of exposure
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC3	Use in closed batch process (synthesis or formulation)
PROC4	Use in batch and other process (synthesis) where opportunity for exposure arises

#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

#### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palm of one hand (240cm <sup>2</sup> ) (PROC 1 & 3)
	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) (PROC 2 & 4)
Other given operational conditions affecting workers exposure	Indoor use	

#### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	PROC 1
	with local exhaust ventilation, Effectiveness : 90%	PROC 2, 3 & 4
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.1.2 Contributing scenario controlling worker exposure (PROC7)

PROC7	Industrial spraying
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#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

Annex Exposition scenarios (ES)  
to Safety Data Sheet of  
**Methanol**

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	8 hours/day
	Exposure frequency	4 - 5 days/week
Human factors not influenced by risk management	not relevant	
Other given operational conditions affecting workers exposure	Indoor use	
	Covers use in room size of	> 1000 m <sup>3</sup>
	Worker is not within one meter of the source	

**Risk management measures**

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	Segregation	Worker is not within one meter of the source
	immision controls	Work in a spray cabin without specific ventilation system
Organisational measures to prevent /limit releases, dispersion and exposure	Regular cleaning of work area	
	Ensure regular inspection, cleaning and maintenance of equipment and machines,Inspect and clean equipment regularly.	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

**2.1.3 Contributing scenario controlling worker exposure (PROC8a, PROC8b)**

PROC8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
PROC8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

**Product characteristics**

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) (PROC 8b)
	dermal exposure	Both hands (960 cm <sup>2</sup> ) (PROC 8a)
Other given operational conditions affecting workers exposure	Indoor use	

**Risk management measures**

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation,Effectiveness : 97%	PROC 8b
	with local exhaust ventilation,Effectiveness : 90%	PROC 8a
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

**2.1.4 Contributing scenario controlling worker exposure (PROC10)**

PROC10	Roller application or brushing of adhesive and other coating.
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**Product characteristics**

Physical form	Liquid
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# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

Concentration of the Substance in Mixture/Article	Covers concentrations up to 80%, Unless otherwise stated
Vapour pressure	169,27 hPa

### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Both hands (960 cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 90%	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.1.5 Contributing scenario controlling worker exposure (PROC13)

PROC13	Treatment of articles by dipping and pouring
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### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 90%	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.2 Contributing scenario controlling environmental exposure (ERC8b, ERC8e)

Not applicable	
ERC8b	Wide dispersive indoor use of reactive substances in open systems
ERC8e	Wide dispersive outdoor use of reactive substances in open systems

### Product characteristics

No additional information

### Operational conditions

No additional information

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**



**Risk management measures**

No additional information

**3. Exposure estimation and reference to its source**

**3.1. Health**

Information for contributing exposure scenario	
2.1.1	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.2	Used Stoffenmanager model (v3.5)
2.1.3	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.4	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.5	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)

**3.2. Environment**

Information for contributing exposure scenario	
2.2	Not applicable

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

**4.1. Health**

Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented,Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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**4.2. Environment**

Guidance - Environment	Not required
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# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## 1. Exposure scenario 07

### Use in cleaning agents

ES Ref.: 07  
ES Type: Worker

Use descriptors	PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13 SU22 ERC8a, ERC8d
Processes, tasks activities covered	Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand). Professional use
Assessment method	see section 3 of this exposure scenario.

## 5. Operational conditions and risk management measures

### 2.1.1 Contributing scenario controlling worker exposure (PROC1, PROC2, PROC3, PROC4)

PROC1	Use in closed process, no likelihood of exposure
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC3	Use in closed batch process (synthesis or formulation)
PROC4	Use in batch and other process (synthesis) where opportunity for exposure arises

#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

#### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day PROC 1, 2 & 3
	Exposure frequency	≤ 240 days/year
	Exposure duration	1 - 4 hours/day PROC 4
Human factors not influenced by risk management	dermal exposure	Palm of one hand (240cm <sup>2</sup> ) (PROC 1 & 3)
	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) (PROC 2 & 4)
Other given operational conditions affecting workers exposure	Indoor use	

#### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	PROC 1
	with local exhaust ventilation, Effectiveness : 80%	PROC 2, 3 & 4
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.1.2 Contributing scenario controlling worker exposure (PROC8a, PROC8b)

PROC8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
PROC8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%, Unless otherwise stated

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

Vapour pressure	169,27 hPa
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### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) PROC 8b
	dermal exposure	Both hands (960 cm <sup>2</sup> ) PROC 8a
Other given operational conditions affecting workers exposure	Indoor use	

### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

#### 2.1.3 Contributing scenario controlling worker exposure (PROC10)

PROC10 Roller application or brushing of adhesive and other coating.

### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%, Unless otherwise stated
Vapour pressure	169,27 hPa

### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Both hands (960 cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

#### 2.1.4 Contributing scenario controlling worker exposure (PROC11)

PROC11 Non-industrial spraying

### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 3%, Unless otherwise stated
Vapour pressure	169,27 hPa

### Operational conditions

Amount used	application rate	5 L/min
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Annex Exposition scenarios (ES)  
to Safety Data Sheet of  
**Methanol**

Frequency and duration of use	Exposure duration, per shift:	200 minutes/day. Value taken from Riskoferm; not relevant in the Stoffenmanager
	Exposure frequency	4 - 5 days/week StoffenManager
Human factors not influenced by risk management	dermal exposure	Both hands (820 cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	
	Room volume	100 - 1000 m <sup>3</sup>

**Risk management measures**

Technical conditions and measures at process level to prevent release	Segregation: Worker is not within one meter of the source	Use of a long spray boom is necessary
Technical conditions and measures to control dispersion from the source towards the worker	Spraying	Level or downward
	Direction of airflow that comes from the source	away from the worker
	Distance of worker from the source	more than one meter
Organisational measures to prevent /limit releases, dispersion and exposure	Inspect and clean equipment regularly.	Not required
	Regular cleaning of work area	Not required
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves.	yes. Effectiveness : 90%
	Respiratory protection	Not required

**2.1.5 Contributing scenario controlling worker exposure (PROC13)**

PROC13	Treatment of articles by dipping and pouring
--------	--

**Product characteristics**

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

**Risk management measures**

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 80%	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

**2.2 Contributing scenario controlling environmental exposure (ERC8a, ERC8d)**

Not applicable	
ERC8a	Wide dispersive indoor use of processing aids in open systems
ERC8d	Wide dispersive outdoor use of processing aids in open systems

**Product characteristics**

No additional information

**Operational conditions**

No additional information

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**



**Risk management measures**

No additional information

**3. Exposure estimation and reference to its source**

**3.1. Health**

Information for contributing exposure scenario	
2.1.1	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated, ECETOC TRA v2.0 Worker
2.1.2	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated, (ECETOC TRA v2.0 Worker; modified version)
2.1.3	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated, (ECETOC TRA v2.0 Worker; modified version)
2.1.4	Used Stoffenmanager model (v3.5), RISKOFDERM v2.1
2.1.5	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated, ECETOC TRA v2.0 Worker

**3.2. Environment**

Information for contributing exposure scenario	
2.2	Not applicable

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

**4.1. Health**

Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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**4.2. Environment**

Guidance - Environment	Not required
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Annex Exposition scenarios (ES)  
to Safety Data Sheet of  
**Methanol**

**1. Exposure scenario 08**

**Use as laboratory reagent**

ES Ref.: 08  
ES Type: Worker

Use descriptors	PROC10, PROC15 SU3 ERC4
Processes, tasks activities covered	Use of the substance within laboratory settings, including material transfers and equipment cleaning. Industrial use
Assessment method	see section 3 of this exposure scenario.

**2. Operational conditions and risk management measures**

**2.1.1 Contributing scenario controlling worker exposure (PROC10)**

PROC10	Roller application or brushing of adhesive and other coating.
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**Product characteristics**

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 80%, Unless otherwise stated
Vapour pressure	169,27 hPa

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Both hands (960 cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

**Risk management measures**

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 90%	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

**2.1.2 Contributing scenario controlling worker exposure (PROC15)**

PROC15	Use as laboratory reagent
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**Product characteristics**

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palm of one hand (240cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 90%	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

## 2.2 Contributing scenario controlling environmental exposure (ERC4)

Not applicable

ERC4	Industrial use of processing aids in processes and products, not becoming part of articles
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## Product characteristics

No additional information

## Operational conditions

No additional information

## Risk management measures

No additional information

## 3. Exposure estimation and reference to its source

### 3.1. Health

Information for contributing exposure scenario	
2.1.1	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated, (ECETOC TRA v2.0 Worker; modified version)
2.1.2	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated, (ECETOC TRA v2.0 Worker; modified version)

### 3.2. Environment

Information for contributing exposure scenario	
2.2	Not applicable

## 5. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

### 4.1. Health

Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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### 4.2. Environment

Guidance - Environment	Not required
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Annex Exposition scenarios (ES)  
to Safety Data Sheet of  
**Methanol**

**1. Exposure scenario 09**

**Use as laboratory reagent**

ES Ref.: 09  
ES Type: Worker

Use descriptors	PROC10, PROC15 SU22 ERC8a
Processes, tasks activities covered	Use of small quantities within laboratory settings, including material transfers and equipment cleaning. Professional use
Assessment method	see section 3 of this exposure scenario.

**2. Operational conditions and risk management measures**

**2.1.1 Contributing scenario controlling worker exposure (PROC10)**

PROC10	Roller application or brushing of adhesive and other coating.
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**Product characteristics**

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%, Unless otherwise stated
Vapour pressure	169,27 hPa

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Both hands (960 cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

**Risk management measures**

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

**2.1.2 Contributing scenario controlling worker exposure (PROC15)**

PROC15	Use as laboratory reagent
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**Product characteristics**

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palm of one hand (240cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**



## Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 80%	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

## 2.2 Contributing scenario controlling environmental exposure (ERC8a)

Not applicable

ERC8a	Wide dispersive indoor use of processing aids in open systems
-------	---

## Product characteristics

No additional information

## Operational conditions

No additional information

## Risk management measures

No additional information

## 3. Exposure estimation and reference to its source

### 3.1. Health

Information for contributing exposure scenario	
2.1.1	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated, (ECETOC TRA v2.0 Worker; modified version)
2.1.2	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated, (ECETOC TRA v2.0 Worker; modified version)

### 3.2. Environment

Information for contributing exposure scenario	
2.2	Not applicable

## 6. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

### 4.1. Health

Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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### 4.2. Environment

Guidance - Environment	Not required
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# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## 1. Exposure scenario 10

### Industrial use as wastewater treatment chemical

ES Ref.: 10 ES  
Type: Worker

Use descriptors	PROC2 SU3 ERC7
Processes, tasks activities covered	Waste water treatment Industrial use
Assessment method	see section 3 of this exposure scenario.

## 2. Operational conditions and risk management measures

### 2.1 Contributing scenario controlling worker exposure (PROC2)

PROC2	Use in closed, continuous process with occasional controlled exposure
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#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

#### Operational conditions

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

#### Risk management measures

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 90%	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

### 2.2 Contributing scenario controlling environmental exposure (ERC7)

Not applicable

ERC7	Industrial use of substances in closed systems
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#### Product characteristics

No additional information

#### Operational conditions

No additional information

#### Risk management measures

No additional information

## 3. Exposure estimation and reference to its source

### 3.1. Health

Information for contributing exposure scenario	
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2.1	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA
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# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

v2.0 Worker; modified version)	
<b>3.2. Environment</b>	
Information for contributing exposure scenario	
2.2	As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed

## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

<b>4.1. Health</b>	
Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
<b>4.2. Environment</b>	
Guidance - Environment	Not required



Annex Exposition scenarios (ES)  
to Safety Data Sheet of  
**Methanol**



**1. Exposure scenario 11**

**Use in oil and gas field drilling and production operations**

ES Ref.: 11 ES  
Type: Worker

Use descriptors	PROC4, PROC5, PROC8a, PROC8b SU3 ERC7
Processes, tasks activities covered	Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance. Industrial use
Assessment method	see section 3 of this exposure scenario.

**2. Operational conditions and risk management measures**

**2.1.1 Contributing scenario controlling worker exposure (PROC4)**

PROC4	Use in batch and other process (synthesis) where opportunity for exposure arises
-------	--

**Product characteristics**

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently)
Vapour pressure	169,27 hPa

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	1 - 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> )
Other given operational conditions affecting workers exposure	Indoor use	

**Risk management measures**

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	with local exhaust ventilation, Effectiveness : 80%	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

**2.1.2 Contributing scenario controlling worker exposure (PROC5)**

PROC5	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
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**Product characteristics**

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%, Unless otherwise stated
Vapour pressure	169,27 hPa

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> )

Annex Exposition scenarios (ES)  
to Safety Data Sheet of  
**Methanol**

Other given operational conditions affecting workers exposure	Indoor use	
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**Risk management measures**

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

**2.1.3 Contributing scenario controlling worker exposure (PROC8a, PROC8b)**

PROC8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
PROC8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

**Product characteristics**

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%, Unless otherwise stated
Vapour pressure	169,27 hPa

**Operational conditions**

Amount used	not relevant	
Frequency and duration of use	Exposure duration	> 4 hours/day
	Exposure frequency	≤ 240 days/year
Human factors not influenced by risk management	dermal exposure	Palms of both hands (480 cm <sup>2</sup> ) (PROC 8b)
	dermal exposure	Both hands (960 cm <sup>2</sup> ) (PROC 8a)
Other given operational conditions affecting workers exposure	Indoor use	

**Risk management measures**

Technical conditions and measures at process level to prevent release	none	
Technical conditions and measures to control dispersion from the source towards the worker	without local exhaust ventilation	
Organisational measures to prevent /limit releases, dispersion and exposure	not relevant	
Conditions and measures related to personal protection, hygiene and health evaluation	Respiratory protection	Not required

**2.2 Contributing scenario controlling environmental exposure (ERC7)**

Not applicable	
ERC7	Industrial use of substances in closed systems

**Product characteristics**

No additional information

**Operational conditions**

No additional information

**Risk management measures**

No additional information

**3. Exposure estimation and reference to its source**

**3.1. Health**

Information for contributing exposure scenario
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# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**



2.1.1	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.2	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)
2.1.3	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated,(ECETOC TRA v2.0 Worker; modified version)

### 3.2. Environment

Information for contributing exposure scenario	
2.2	As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed

## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

### 4.1. Health

Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented,Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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### 4.2. Environment

Guidance - Environment	Not required
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## 1. Exposure scenario 12

### Consumer use of cleaning agents and de-icers (liquid products)

ES Ref.: 12  
ES Type: Consumer

Use descriptors	PC4, PC35 SU21 ERC8a, ERC8d
Processes, tasks activities covered	Use in cleaning agents De-icing applications no spraying Consumer use
Assessment method	see section 3 of this exposure scenario.

## 2. Operational conditions and risk management measures

### 2.1 Contributing scenario consumer end-use (PC4, PC35)

PC4	Anti-Freeze and De-icing products
PC35	Washing and cleaning products (including solvent based products)

#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 2.5%, Unless otherwise stated
Vapour pressure	169 hPa
Other product characteristics	Molecular weight (g/mol) 18 (ConsExpo default), Mass transfer rate 0.413 m/min (Thibodaux's method)

#### Operational conditions

Amount used	Amount used per event	100 g
Frequency and duration of use	Exposure frequency	104 Times per year: (ConsExpo Default)
	Exposure duration	240 minutes (ConsExpo Default)
	Application duration	20 minutes (ConsExpo Default)
Human factors not influenced by risk management	dermal exposure	1900 cm <sup>2</sup>
	Inhalation Rate (L/min)	24,1
Other given operational conditions affecting consumers exposure	Room Volume	58 m <sup>3</sup>
	Ventilation rate per hour	0,5
	Release area	5 m <sup>2</sup>

#### Risk management measures

Conditions and measures related to information and behavioural advice to consumers	none	
Conditions and measures related to personal protection, hygiene and health evaluation	none	

### 2.2 Contributing scenario controlling environmental exposure (ERC8a, ERC8d)

Not applicable	
ERC8a	Wide dispersive indoor use of processing aids in open systems
ERC8d	Wide dispersive outdoor use of processing aids in open systems

#### Product characteristics

No additional information

#### Operational conditions

No additional information

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## Risk management measures

No additional information

### 3. Exposure estimation and reference to its source

#### 3.1. Health

Information for contributing exposure scenario

2.1	ConsExpo v4.1
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#### 3.2. Environment

Information for contributing exposure scenario

2.2	Not applicable
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### 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

#### 4.1. Health

Guidance - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

#### 4.2. Environment

Guidance - Environment

Not applicable

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## 1. Exposure scenario 13

### Consumer use of cleaning agents and de-icers (liquid products)

ES Ref.: 13  
ES Type: Consumer

Use descriptors	PC4, PC35 SU21 ERC8a, ERC8d
Processes, tasks activities covered	Use in cleaning agents De-icing applications Spraying Consumer use
Assessment method	see section 3 of this exposure scenario.

## 2. Operational conditions and risk management measures

### 2.1 Contributing scenario consumer end-use (PC4, PC35)

PC4	Anti-Freeze and De-icing products
PC35	Washing and cleaning products (including solvent based products)

#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 5%, Unless otherwise stated
Vapour pressure	169 hPa
Other product characteristics	Molecular weight (g/mol) 22 (ConsExpo default), Mass transfer rate 0.413 m/min (Thibodaux's method)

#### Operational conditions

Amount used	Amount used per event	16,2 g
Frequency and duration of use	Exposure frequency	365 Times per year: (ConsExpo Default)
	Exposure duration	60 minutes (ConsExpo Default)
	Application duration	10 minutes (ConsExpo Default)
	Spraying, Exposure duration	0,41 minutes Used model : spray application
Human factors not influenced by risk management	dermal exposure, Spraying	Both hands (960 cm <sup>2</sup> )
	dermal exposure, Cleaning	215 cm <sup>2</sup> Palm of one hand
	Inhalation Rate (L/min)	24,1
Other given operational conditions affecting consumers exposure	Room Volume	15 m <sup>3</sup>
	Room Height	2,5 m
	Ventilation rate per hour	2,5 l
	Release area	1,71 m <sup>2</sup>

#### Risk management measures

Conditions and measures related to information and behavioural advice to consumers	Spraying away from exposed person	
Conditions and measures related to personal protection, hygiene and health evaluation	none	

### 2.2 Contributing scenario controlling environmental exposure (ERC8a, ERC8d)

Not applicable	
ERC8a	Wide dispersive indoor use of processing aids in open systems
ERC8d	Wide dispersive outdoor use of processing aids in open systems

# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

## Product characteristics

No additional information

## Operational conditions

No additional information

## Risk management measures

No additional information

## 3. Exposure estimation and reference to its source

### 3.1. Health

Information for contributing exposure scenario

2.1	ConsExpo v4.1
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### 3.2. Environment

Information for contributing exposure scenario

2.2	Not applicable
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## 5. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

### 4.1. Health

Guidance - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

### 4.2. Environment

Guidance - Environment

Not applicable

### 1. Exposure scenario 12a

**Consumer use of fuels indoors  
(Domestic/hobby use e.g. in model engines, fuel cells, fondue sets)**

ES Ref.: 12a  
ES Type: Consumer

Use descriptors	PC13 SU21 ERC8b
Processes, tasks activities covered	Consumer use of fuels indoors (Domestic/hobby use e.g in model engines, fuel cells, fondue sets) Consumer use
Assessment method	see section 3 of this exposure scenario.

### 2. Operational conditions and risk management measures

#### 2.1 Contributing scenario consumer end-use (PC13)

PC13	Fuels
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#### Product characteristics

Physical form	Liquid
Concentration of the Substance in Mixture/Article	Covers concentrations up to 80%, Unless otherwise stated
Vapour pressure	169 hPa
Other product characteristics	Molecular weight (g/mol) 100, (estimated), Mass transfer rate 0.413 (Thibodaux's method)

#### Operational conditions

Amount used	Amount used per event,(inhalative)	800 g
Frequency and duration of use	Exposure frequency	2 per week
	Exposure duration	10 minutes
	Application duration	10 minutes (ConsExpo Default)
Human factors not influenced by risk management	Inhalation Rate	34,7 m <sup>3</sup> /d
	Release area	2 cm <sup>2</sup>
Other given operational conditions affecting consumers exposure	Room Volume	20 m <sup>3</sup>
	Ventilation rate per hour	0,5 l
	Release area	5 m <sup>2</sup>

#### Risk management measures

Conditions and measures related to information and behavioural advice to consumers	none	
Conditions and measures related to personal protection, hygiene and health evaluation	none	

#### 2.2 Contributing scenario controlling environmental exposure (ERC8b)

Not applicable	
ERC8b	Wide dispersive indoor use of reactive substances in open systems

#### Product characteristics

No additional information

#### Operational conditions

No additional information

#### Risk management measures

No additional information

### 3. Exposure estimation and reference to its source



# Annex Exposition scenarios (ES) to Safety Data Sheet of **Methanol**

### 3.1. Health

Information for contributing exposure scenario

2.1	ConsExpo v4.1
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### 3.2. Environment

Information for contributing exposure scenario

2.2	Not applicable
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## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

### 4.1. Health

Guidance - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

### 4.2. Environment

Guidance - Environment

Not applicable

## Additional good practice advice beyond the REACH CSA

Additional good practice advice

Avoid contact with skin, In case of contact, immediately flush skin with plenty of water, Keep container tightly closed.

Annex Exposition scenarios (ES)  
to Safety Data Sheet of  
**Methanol**

**1. Exposure scenario 14**

**Consumer use of fuels outdoors (gasoline additive)**

ES Ref.: 14  
ES Type: Consumer

Use descriptors	PC13 SU21 ERC8e
Processes, tasks activities covered	Filling up cars and other vehicles at petrol stations Consumer use
Assessment method	see section 3 of this exposure scenario.

**2. Operational conditions and risk management measures**

**2.1 Contributing scenario consumer end-use (PC13)**

PC13	Fuels
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**Product characteristics**

Physical form	Liquid
Vapour pressure	169 hPa
Other product characteristics	Molecular weight (g/mol) 100 (ConsExpo default), Mass transfer rate 0.413 m/min (Thibodaux's method)

**Operational conditions**

Amount used	Amount used per event, inhalative	50000 g
	Amount used per event, Dermal	10 g
Frequency and duration of use	Exposure frequency	2 per week
	Exposure duration	10 minutes
	Application duration	10 minutes (ConsExpo Default)
Human factors not influenced by risk management	dermal exposure	430 cm <sup>2</sup>
	Release area	2 cm <sup>2</sup>
Other given operational conditions affecting consumers exposure	Room Volume	20 m <sup>3</sup>
	Ventilation rate per hour	0,5 l

**Risk management measures**

Conditions and measures related to information and behavioural advice to consumers	none	
Conditions and measures related to personal protection, hygiene and health evaluation	none	

**2.2 Contributing scenario controlling environmental exposure (ERC8e)**

Not applicable	
ERC8e	Wide dispersive outdoor use of reactive substances in open systems

**Product characteristics**

No additional information

**Operational conditions**

No additional information

**Risk management measures**

No additional information

**3. Exposure estimation and reference to its source**

**3.1. Health**

Information for contributing exposure scenario
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Annex Exposition scenarios (ES)  
to Safety Data Sheet of  
**Methanol**

2.1	ConsExpo v4.1
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**3.2. Environment**

Information for contributing exposure scenario	
2.2	As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES**

**4.1. Health**

Guidance - Health	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented, Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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**4.2. Environment**

Guidance - Environment	Not applicable
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**Additional good practice advice beyond the REACH CSA**

Additional good practice advice	Avoid contact with skin, In case of contact, immediately flush skin with plenty of water, Keep container tightly closed.
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