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# **Methanol**

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

# 1.1 Product identifier

Trade name : Methanol

Product code : S8111, S811D, S811E

Registration number EU : 01-2119433307-44-0006, 01-2119433307-44-0007, 01-

2119433307-44-0008, 01-2119433307-44-0015, 01-

2119433307-44-0016

Synonyms : carbinol, MEOH, methyl hydroxide, monohydroxy methane

CAS-No. : 67-56-1

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

Use of the Sub
: Solvent., Raw material for use in the chemical industry.

stance/Mixture Please refer to section 16 and/or the annexes for the regis-

tered uses under REACH.

Uses advised against : This product must not be used in applications other than the

above without first seeking the advice of the supplier.

This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the sup-

plier.

# 1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier : Shell Chemicals Europe B.V.

PO Box 2334 3000 CH Rotterdam

Netherlands

Telephone : +31 (0)10 441 5137 / +31 (0)10 441 5191 Telefax : +31 (0)20 716 8316/ +31 (0)20 713 9230

Contact for Safety Data : sccmsds@shell.com

Sheet

#### 1.4 Emergency telephone number

+44 (0) 1235 239 670 (This telephone number is available 24 hours per day, 7 days per week)

#### **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

# Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 2 H225: Highly flammable liquid and vapour.

Acute toxicity, Category 3, Inhalation H331: Toxic if inhaled.

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Acute toxicity, Category 3, Dermal H311: Toxic in contact with skin.

Acute toxicity, Category 3, Oral H301: Toxic if swallowed.

Specific target organ toxicity - single exposure, Category 1, Visual system

, Nervous system

H370: Causes damage to organs.

#### 2.2 Label elements

# Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms







Signal word Danger

PHYSICAL HAZARDS: Hazard statements

Highly flammable liquid and vapour. H225

**HEALTH HAZARDS:** 

H311 Toxic in contact with skin.

H301 Toxic if swallowed. H331 Toxic if inhaled.

H370 Causes damage to organs (Eyes, Nervous system).

**ENVIRONMENTAL HAZARDS:** 

Not classified as environmental hazard according to

CLP criteria.

Prevention: Precautionary statements

> P210 Keep away from heat/ sparks/ open flames/ hot surfac-

es. No smoking.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304 + P340 IF INHALED: Remove person to fresh air and

keep comfortable for breathing.

P301 + P310 IF SWALLOWED: Immediately call a POISON

CENTER/ doctor.

Storage:

No precautionary phrases.

Disposal:

No precautionary phrases.

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#### 2.3 Other hazards

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

In use, may form flammable/explosive vapour-air mixture.

Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.

If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable airvapour mixtures can occur.

# **SECTION 3: Composition/information on ingredients**

#### 3.1 Substances

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Methanol	67-56-1 200-659-6 603-001-00-X 01-2119433307-44, UK-01-8636477472-8	Flam. Liq. 2; H225 Acute Tox. 3; H331 Acute Tox. 3; H311 Acute Tox. 3; H301 STOT SE 1; H370 (Visual system, Nervous system)  specific concentration limit STOT SE 1; H370 >= 10 % STOT SE 2; H371 3 - < 10 %  Acute oral toxicity: Acute toxicity estimate 100 mg/kg bw Acute inhalation toxicity: Acute toxicity estimate 3 mg/l Acute dermal toxicity: Acute toxicity estimate 3 mg/l Acute dermal toxicity: Acute toxicity estimate 300 mg/kg bw	<= 100

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#### **SECTION 4: First aid measures**

# 4.1 Description of first aid measures

General advice : DO NOT DELAY.

Keep victim calm. Obtain medical treatment immediately.

Protection of first-aiders : When administering first aid, ensure that you are wearing the

appropriate personal protective equipment according to the

incident, injury and surroundings.

If inhaled : Call emergency number for your location / facility.

Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or Cardio-Pulmonary Resuscitation as required and transport to

the nearest medical facility.

In case of skin contact : Remove contaminated clothing. Immediately flush skin with

large amounts of water for at least 15 minutes. Transport to

the nearest medical facility for additional treatment.

In case of eye contact : Flush eye with copious quantities of water.

Remove contact lenses, if present and easy to do. Continue

insing.

If persistent irritation occurs, obtain medical attention.

If swallowed : If swallowed, do not induce vomiting: transport to nearest

medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Rinse mouth.

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

Symptoms : Respiratory irritation signs and symptoms may include a tem-

porary burning sensation of the nose and throat, coughing,

and/or difficulty breathing.

Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-

headedness, headache and nausea.

Skin irritation signs and symptoms may include a burning sen-

sation, redness, swelling, and/or blisters.

Eye irritation signs and symptoms may include a burning sen-

sation, redness, swelling, and/or blurred vision.

Symptoms may vary by the agent. Symptoms may extend to being locally corrosive to involving generalized systems in-

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cluding respiratory system, circulatory system, central nervous system (CNS), and may lead to death.

Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance.

Acute methanol toxicity may progress as follows: drowsiness or fatigue, and mild irritation of the eyes and mucous membranes; this may be followed (in about 18 to 24 hours and in some cases up to 72 hours) by more severe central nervous system (CNS) effects and visual disturbances including diminished eyesight or blindness, metabolic acidosis (metabolism to formic acid) and deep respirations.

Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.

Acute irritation of the respiratory system leading to tightness of the chest and an asthmatic condition.

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

Treatment : IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!

Call a doctor or poison control center for guidance.

Treat symptomatically.

Causes acidosis. Causes central nervous system depression. Symptoms and effects may be delayed for 18 to 24 hours and in some cases up to 72 hours. Treatment of poisoning may require use of ethanol. Treatment of acidosis may include correction with alkali solution, haemodialysis and supportive measures such as correction of electrolyte imbalances, where necessary. Potassium supplements may also be required. May lead to respiratory depression and or central nervous system (CNS) depression resulting difficulty breathing, dizziness, light-headedness, headache, nausea and loss of coordination. Continued exposure may result in unconsciousness and death.

## **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam, water spray or fog. Dry chemical pow-

der, carbon dioxide, sand or earth may be used for small fires

only.

Unsuitable extinguishing

media

None

# 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

: The vapour is heavier than air, spreads along the ground and

distant ignition is possible.

Carbon monoxide may be evolved if incomplete combustion

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occurs.

# 5.3 Advice for firefighters

Special protective equipment :

for firefighters

Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

Specific extinguishing meth-

ods

Standard procedure for chemical fires.

Further information : Clear fire area of all non-emergency personnel.

Keep adjacent containers cool by spraying with water.

#### **SECTION 6: Accidental release measures**

## 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Observe the relevant local and international regulations

Notify authorities if any exposure to the general public or the

environment occurs or is likely to occur.

Local authorities should be advised if significant spillages

cannot be contained.

The vapour is heavier than air, spreads along the ground and

distant ignition is possible.

Vapour may form an explosive mixture with air.

6.1.1 For non emergency personnel: Avoid contact with skin, eyes and clothing.

Isolate hazard area and deny entry to unnecessary or unpro-

tected personnel.

Stay upwind and keep out of low areas. 6.1.2 For emergency responders:

Avoid contact with skin, eyes and clothing.

Isolate hazard area and deny entry to unnecessary or unpro-

tected personnel.

Stay upwind and keep out of low areas.

#### 6.2 Environmental precautions

**Environmental precautions** 

Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (conthing) all aguirment.

ing and grounding (earthing) all equipment. Ventilate contaminated area thoroughly.

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Monitor area with combustible gas indicator.

## 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : For large liquid spills (> 1 drum), transfer by mechanical

means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove

contaminated soil and dispose of safely.

#### 6.4 Reference to other sections

For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet., For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.

## **SECTION 7: Handling and storage**

## 7.1 Precautions for safe handling

Technical measures : Avoid breathing of or direct contact with material. Only use in

well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see

Section 8 of this Safety Data Sheet.

Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this

material.

Ensure that all local regulations regarding handling and stor-

age facilities are followed.

Advice on safe handling : Avoid contact with skin, eyes and clothing.

Use local exhaust ventilation if there is risk of inhalation of

vapours, mists or aerosols.

Bulk storage tanks should be diked (bunded).

Extinguish any naked flames. Do not smoke. Remove ignition

sources. Avoid sparks.

Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to

reduce the risk.

The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flamma-

ble.

Properly dispose of any contaminated rags or cleaning mate-

rials in order to prevent fires.

Do NOT use compressed air for filling, discharging, or han-

dling operations.

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Product Transfer : Refer to guidance under Handling section.

# 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Further information on stor-

age stability

The storage of this product may be subject to the Control of Pollution (Oil Storage) (England) Regulations. Further guidance may be obtained from the local environmental agency office.

Packaging material : Suitable material: For containers, or container linings use mild

steel, stainless steel.

Unsuitable material: Natural, butyl, neoprene or nitrile rubbers.

Container Advice : Containers, even those that have been emptied, can contain

explosive vapours. Do not cut, drill, grind, weld or perform

similar operations on or near containers.

7.3 Specific end use(s)

Specific use(s) : Please refer to section 16 and/or the annexes for the regis-

tered uses under REACH.

Ensure that all local regulations regarding handling and stor-

age facilities are followed.

See additional references that provide safe handling practices: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices

on Static Electricity).

IEC/TS 60079-32-1: Electrostatic hazards, guidance

# **SECTION 8: Exposure controls/personal protection**

# 8.1 Control parameters

## **Occupational Exposure Limits**

Components	CAS-No.	Value type (Form	Control parameters	Basis
		of exposure)		
Methanol	67-56-1	TWA	200 ppm	GB EH40
			266 mg/m3	
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
Methanol	STEL 250 ppm GB EH40 333 mg/m3			
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will			

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	lead to systen	nic toxicity.		
Methanol		TWA	200 ppm 260 mg/m3	2006/15/EC
	Further inform through the sk		entifies the possibility of signif	icant uptake
Methanol		TWA	200 ppm	ACGIH
Methanol		STEL	250 ppm	ACGIH

# Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Methanol	67-56-1	Methanol: 15 mg/l (Urine)	End of shift (As soon as possible after exposure ceases)	ACGIH BEI

# Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Methanol, 67-56-1	Workers	Inhalation	Acute systemic ef- fects	260 mg/m3
Methanol, 67-56-1	Workers	Dermal	Long-term systemic effects	40 mg/kg/day
Methanol, 67-56-1	Workers	Inhalation	Long-term systemic effects	260 mg/m3
Methanol, 67-56-1	Consumers	Inhalation	Acute systemic ef- fects	50 mg/m3
Methanol, 67-56-1	Consumers	Dermal	Long-term systemic effects	8 mg/kg/day
Methanol, 67-56-1	Consumers	Inhalation	Long-term systemic effects	50 mg/m3
Methanol, 67-56-1	Consumers	Oral	Long-term systemic effects	8 mg/kg/day

# Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name		Environmental Compartment	Value
Remarks:	Exposure assessments have not been presented for the environment		
	therefore PNEC values not required.		

# 8.2 Exposure controls

# **Engineering measures**

Read in conjunction with the Exposure Scenario for your specific use contained in the Annex. Use sealed systems as far as possible.

Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.

Local exhaust ventilation is recommended.

Firewater monitors and deluge systems are recommended.

Eye washes and showers for emergency use.

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Define procedures for safe handling and maintenance of controls.

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Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or for subsequent recycle.

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:

# Personal protective equipment

Read in conjunction with the Exposure Scenario for your specific use contained in the Annex. The provided information is made in consideration of the PPE directive (Council Directive 89/686/EEC) and the CEN European Committee for Standardisation (CEN) standards.

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Eye protection : Wear goggles for use against liquids and gas.

Wear full face shield if splashes are likely to occur.

Approved to EU Standard EN166.

Hand protection

Remarks : Where hand contact with the product may occur the use of

gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Butvl rubber. Incidental contact/Splash protection: Nitrile rubber. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moistur-

izer is recommended.

Skin and body protection : Where risk of splashing or in spillage clean up, use chemical

resistant one-piece overall with integral hood.

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Wear antistatic and flame-retardant clothing.

Wear chemical and heat resistant gloves and boots. Where

risk of splashing, also wear an apron.

Protective clothing approved to EU Standard EN14605.

Respiratory protection : If engineering controls do not maintain airborne concentra-

tions to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing appa-

ratus.

Where air-filtering respirators are suitable, select an appro-

priate combination of mask and filter.

Select a filter suitable for organic gases and vapours [Type A

boiling point > 65°C (149°F)] meeting EN14387.

Thermal hazards : Not applicable

## **SECTION 9: Physical and chemical properties**

9.1 Information on basic physical and chemical properties

Physical state : Liquid.

Colour : colourless

Odour : characteristic

Odour Threshold : Data not available

Melting / freezing point : -97.5 °C

Boiling point/boiling range : 63.6 - 64.6 °C

Flammability

Flammability (solid, gas) : Not applicable

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit /

44 %(V)

Upper flammability limit

Lower explosion limit / Lower flammability limit

6.1 %(V)

Flash point : 10 °C

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Method: Abel

Auto-ignition temperature : 455 °C

Method: ASTM E-659

Decomposition temperature

Decomposition tempera-

ture

Data not available

pH : Not applicable

Viscosity

Viscosity, dynamic : 0.59 mPa.s (20 °C)

Method: ASTM D445

Viscosity, kinematic : Data not available

Solubility(ies)

Water solubility : Completely miscible. (20 °C)

Partition coefficient: n-

octanol/water

: log Pow: < 0

Vapour pressure : 13.1 kPa (20 °C)

55.7 kPa (50 °C)

Relative density : Data not available

Density : 791 - 792 kg/m3 (20 °C)

Method: ASTM D4052

Relative vapour density : Data not available

Particle characteristics

Particle size : Data not available

9.2 Other information

Explosive properties : Not applicable

Oxidizing properties : Data not available

Evaporation rate : 1.9

Method: ASTM D 3539, nBuAc=1

6.3

Method: DIN 53170, di-ethyl ether=1

Conductivity: > 10,000 pS/m, A number of factors,

for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity

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of a liquid, This material is not expected to be a static accumu-

lator.

Surface tension : 22.6 mN/m, 20 °C

Molecular weight : 32 g/mol

# **SECTION 10: Stability and reactivity**

## 10.1 Reactivity

The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.

# 10.2 Chemical stability

No hazardous reaction is expected when handled and stored according to provisions

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts with strong oxidising agents.

#### 10.4 Conditions to avoid

Conditions to avoid : Avoid heat, sparks, open flames and other ignition sources.

Prevent vapour accumulation.

In certain circumstances product can ignite due to static elec-

tricity.

# 10.5 Incompatible materials

Materials to avoid : Strong oxidising agents.

# 10.6 Hazardous decomposition products

Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

## **SECTION 11: Toxicological information**

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

Information on likely routes of : Exposure may occur via inhalation, ingestion, skin absorption,

exposure skin or eye contact, and accidental ingestion.

## **Acute toxicity**

# Components:

# Methanol:

Acute oral toxicity : Acute toxicity estimate: 100 mg/kg bw

Remarks: Expert judgement

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LD 50 (Rat): >= 1187 - 2769 mg/kg bw

Method: Test(s) equivalent or similar to OECD Test Guideline

401

Remarks: Toxic if swallowed.

There is a marked difference in acute oral toxicity between animals and man, man being more susceptible than animals. The estimated fatal dose for man is 100 milliliters (1/2 cup).

Acute inhalation toxicity : Acute toxicity estimate: 3 mg/l

Exposure time: 4 h
Test atmosphere: vapour
Remarks: Expert judgement

LC 50 (Cat): 43.7 mg/l Exposure time: 6 h Test atmosphere: vapour

Method: Acceptable non-standard method.

Remarks: Toxic if inhaled.

Acute dermal toxicity : Acute toxicity estimate: 300 mg/kg bw

Remarks: Expert judgement

LD50 Dermal (Rabbit): 17100 mg/kg bw Remarks: Toxic in contact with skin.

#### Skin corrosion/irritation

# **Components:**

Methanol:

Species : Rabbit

Method : Acceptable non-standard method.

Remarks : Based on available data, the classification criteria are not met.

#### Serious eye damage/eye irritation

# **Components:**

Methanol:

Species : Rabbit

Method : Acceptable non-standard method.

Remarks : Based on available data, the classification criteria are not met.

# Respiratory or skin sensitisation

#### **Components:**

Methanol:

Species : Guinea pig

Method : Test(s) equivalent or similar to OECD Test Guideline 406
Remarks : Based on available data, the classification criteria are not met.

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# Germ cell mutagenicity

# **Components:**

Methanol:

Genotoxicity in vitro : Method: OECD Test Guideline 471

Remarks: Based on available data, the classification criteria

are not met.

Method: Test(s) equivalent or similar to OECD Test Guideline

476

Remarks: Based on available data, the classification criteria

are not met.

Method: Literature data

Remarks: Based on available data, the classification criteria

are not met.

Genotoxicity in vivo : Species: Mouse

Method: Test(s) equivalent or similar to OECD Test Guideline

474

Remarks: Based on available data, the classification criteria

are not met.

Species: Mouse

Method: Literature data

Remarks: Based on available data, the classification criteria

are not met.

Germ cell mutagenicity- As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

#### Carcinogenicity

# **Components:**

Methanol:

Species : Mouse, male and female

Application Route : Inhalation

Method : Test(s) equivalent or similar to OECD Test Guideline 453
Remarks : Based on available data, the classification criteria are not met.

Species : Rat, male and female

Application Route : Inhalation

Method : Test(s) equivalent or similar to OECD Test Guideline 453
Remarks : Based on available data, the classification criteria are not met.

Carcinogenicity - Assess-

ment

This product does not meet the criteria for classification in

categories 1A/1B.

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Material	GHS/CLP Carcinogenicity Classification
Methanol	No carcinogenicity classification.

# Reproductive toxicity

# **Components:**

# Methanol:

Effects on fertility : Species: Rat

Sex: male and female Application Route: Inhalation

Method: Equivalent or similar to OECD Test Guideline 416 Remarks: Based on available data, the classification criteria

are not met.

Reproductive toxicity - As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

# STOT - single exposure

## **Components:**

#### Methanol:

Exposure routes : Oral, Inhalation, Dermal

Target Organs : Central nervous system, optic nerve

Remarks : Causes damage to organs.

High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death. Visual system: may cause marked impairment of vision or

blindness.

# STOT - repeated exposure

## Components:

## Methanol:

Remarks : Visual system: may cause decreased color perception.

Based on available data, the classification criteria are not met.

# Repeated dose toxicity

# **Components:**

#### Methanol:

Species : Monkey, male

Application Route : Oral

Method : Literature data

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Target Organs : No specific target organs noted

Species : Rat, male and female

Application Route : Inhalation Test atmosphere : vapour

Method : Test(s) equivalent or similar to OECD Test Guideline 453

Target Organs : No specific target organs noted

# **Aspiration toxicity**

# **Components:**

#### Methanol:

Based on available data, the classification criteria are not met.

#### 11.2 Information on other hazards

# **Endocrine disrupting properties**

#### **Product:**

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

# **Further information**

**Product:** 

Remarks : Unless indicated otherwise, the data presented is representa-

tive of the product as a whole, rather than for individual com-

ponent(s).

## **Components:**

Methanol:

Remarks : Classifications by other authorities under varying regulatory

frameworks may exist.

# **SECTION 12: Ecological information**

# 12.1 Toxicity

#### **Components:**

Methanol:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 15,400 mg/l

Exposure time: 96 h

Method: Other guideline method. Remarks: Practically non toxic:

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LL/EL/IL50 > 100 mg/l

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 18,260 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 202 Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 22,000

mg/l

Exposure time: 96 h

Method: OECD Test Guideline 201 Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to microorganisms : IC50 (Activated sludge): > 1,000 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209 Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to fish (Chronic tox-

icity)

NOEC: 7,900 mg/l Exposure time: 200 d

Species: Oryzias latipes (Japanese medaka)

Method: Other guideline method. Remarks: NOEC/NOEL > 100 mg/l

Toxicity to daphnia and other

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 208 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Method: Based on quantitative structure-activity relationship

(QSAR) modelling

Remarks: NOEC/NOEL > 100 mg/l

#### 12.2 Persistence and degradability

# **Product:**

Biodegradability : Remarks: Not Persistent per IMO criteria.

International Oil Pollution Compensation (IOPC) Fund definition: "A non-persistent oil is oil, which, at the time of shipment, consists of hydrocarbon fractions, (a) at least 50% of which, by volume, distills at a temperature of 340°C (645°F) and (b) at least 95% of which, by volume, distills at a temperature of 370°C (700°F) when tested by the ASTM Method D-86/78 or any subsequent revision

thereof."

# **Components:**

Methanol:

Biodegradability : Biodegradation: 82.7 %

Exposure time: 5 d

Method: Other guideline method.

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Remarks: Readily biodegradable.

Oxidises rapidly by photo-chemical reactions in air.

## 12.3 Bioaccumulative potential

## **Components:**

Methanol:

Bioaccumulation : Species: Cyprinus carpio (Carp)

Exposure time: 72 h

Bioconcentration factor (BCF): 1

Method: Test(s) equivalent or similar to OECD Test Guideline

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Remarks: Does not bioaccumulate significantly.

# 12.4 Mobility in soil

# **Components:**

Methanol:

Mobility : Remarks: If product enters soil, it will be highly mobile and

may contaminate groundwater.

#### 12.5 Results of PBT and vPvB assessment

# **Components:**

Methanol:

Assessment : The substance does not fulfill all screening criteria for persis-

tence, bioaccumulation and toxicity and hence is not consid-

ered to be PBT or vPvB..

#### 12.6 Endocrine disrupting properties

# Product:

Assessment : The substance/mixture does not contain components considered to

have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

# 12.7 Other adverse effects

#### **Product:**

Additional ecological infor-

mation

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

## **SECTION 13: Disposal considerations**

# 13.1 Waste treatment methods

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Product : Recover or recycle if possible.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal meth-

ods in compliance with applicable regulations.

Do not dispose into the environment, in drains or in water

courses.

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Waste, spills or used product is dangerous waste.

Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

Local regulations may be more stringent than regional or na-

tional requirements and must be complied with.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides tech-

nical aspects at controlling pollutions from ships.

Contaminated packaging : Drain container thoroughly.

After draining, vent in a safe place away from sparks and fire.

Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer.

Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

Local legislation

Remarks : Hazardous Waste (England and Wales) Regulations 2005.

Hazardous Waste (England and Wales) Regulations 2005.

## **SECTION 14: Transport information**

#### 14.1 UN number or ID number

ADR : 1230 RID : 1230 IMDG : 1230 IATA : 1230

14.2 UN proper shipping name

ADR : METHANOL RID : METHANOL

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**IMDG METHANOL** 

IATA : Methanol

14.3 Transport hazard class(es)

**ADR** 3 RID 3 **IMDG** 3 **IATA** : 3

## 14.4 Packing group

**ADR** 

Packing group Ш Classification Code FT1 Hazard Identification Number : 336 Labels 3 (6.1)

**RID** 

Packing group Ш Classification Code FT1 Hazard Identification Number : 336 Labels 3 (6.1)

**IMDG** 

Packing group Ш 3 (6.1) Labels

IATA

Packing group : II Labels : 3 (6.1)

## 14.5 Environmental hazards

Environmentally hazardous no

Environmentally hazardous no

**IMDG** 

Marine pollutant no

14.6 Special precautions for user

Remarks Special Precautions: Refer to Section 7, Handling & Storage,

for special precautions which a user needs to be aware of or

needs to comply with in connection with transport.

14.7 Maritime transport in bulk according to IMO instruments

: Y Pollution category Ship type : 3

Product name : Methanol

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#### **Additional Information**

: This product may be transported under nitrogen blanketing. Nitrogen is an odourless and invisible gas. Exposure to nitrogen enriched atmospheres displaces available oxygen which may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space entry.

# **SECTION 15: Regulatory information**

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

REACH - List of substances subject to authorisation : Product is r (Annex XIV) : tion under F

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

: Product is not subject to Authorisation under REACH.

This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Methanol

# Other regulations:

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

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Environmental Protection Act 1990 (as amended). Health and Safety at Work etc. Act 1974. Consumers Protection Act 1987. Pollution Prevention and Control Act 1999. Environment Act 1995. Factories Act 1961. The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations 2011. Chemicals (Hazard Information and Packaging for Supply) Regulations 2009. Control of Substances Hazardous to Health Regulations 2002 (as amended). Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (as amended). Personal Protective Equipment Regulations 2002. Personal Protective Equipment at Work Regulations 1992. Hazardous Waste (England and Wales) Regulations 2005(as amended). Control of Major Accident Hazards Regulations 1999 (as amended). Renewable Transport Fuel Obligations Order 2007 (as amended). Energy Act 2011. Environmental Permitting (England and Wales) Regulations 2010 (as amended). Waste (England and Wales) Regulations 2011 (as amended). Planning (Hazardous Substances) Act 1990 and associated regulations. The Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2011.

Product is subject to the Control of Major Accident Hazards Regulations 2015 (2015 No. 483) based on Seveso III directive (2012/18/EU).

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The components of this product are reported in the following inventories:

AIIC : Listed

DSL : Listed

IECSC : Listed

ENCS : Listed

KECI : Listed

NZIoC : Listed

PICCS : Listed

TSCA : Listed

TCSI : Listed

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

# **SECTION 16: Other information**

#### Full text of other abbreviations

2006/15/EC : Europe. Indicative occupational exposure limit values

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

2006/15/EC / TWA : Limit Value - eight hours
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL

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- Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### **Further information**

Training advice : Provide adequate information, instruction and training for op-

erators.

Other information : For Industry guidance and tools on REACH please visit the

CEFIC website at http://cefic.org/Industry-support.

The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not consid-

ered to be PBT or vPvB.

A vertical bar (|) in the left margin indicates an amendment

from the previous version.

Sources of key data used to compile the Safety Data

Sheet

The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU

IUCLID date base, EC 1272 regulation, etc).

Identified Uses according to the Use Descriptor System

**Uses - Worker** 

Title : Manufacture of substance

- Industrial

**Uses - Worker** 

Title : Use as an intermediate

- Industrial

Uses - Worker

Title : Distribution of substance

- Industrial

**Uses - Worker** 

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Title : Formulation & (re)packing of substances and mixtures

- Industrial

**Uses - Worker** 

Title : Use in Cleaning Agents

- Industrial

**Uses - Worker** 

Title : Use in Cleaning Agents

- Professional

**Uses - Worker** 

Title : Use as a fuel

- Industrial

**Uses - Worker** 

Title : Use as a fuel

- Professional

**Uses - Worker** 

Title : Use in laboratories

- Industrial

**Uses - Worker** 

Title : Use in laboratories

- Professional

Identified Uses according to the Use Descriptor System

**Uses - Consumer** 

Title : Use in Cleaning Agents

- Consumer

**Uses - Consumer** 

Title : Use as a fuel

- Consumer

**Uses - Consumer** 

Title : De-icing and anti-icing applications

- Consumer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not

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to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB/EN

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# **Exposure Scenario - Worker**

3000000552		
SECTION 1	EXPOSURE SCENARIO TITLE	
Title	Manufacture of substance- Industrial	
Use Descriptor	Sector of Use: SU 3, SU8, SU9 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 Environmental Release Categories: ERC1, ERC4	
Scope of process	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.	

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of	Use
	8 hours (unless stated differently).
Other Operational Conditio	
Assumes a good basic stand	in 20°C above ambient temperature (unless stated differently). ard of occupational hygiene is implemented.
Contributing Scenarios Risk Management Measures	
General exposures (closed systems)	No specific measures identified.
General exposures (closed systems)with sample collectionGeneral measures (skin irritants).	Provide extraction ventilation at points where emissions occur.
General exposures (closed systems)Use in contained batch processes	Provide extraction ventilation at points where emissions occur.
General exposures (open systems)Batch processwith sample collection	Provide extraction ventilation at points where emissions occur.
Process sampling	Provide extraction ventilation at points where emissions occur.
Laboratory activities	Handle in a fume cupboard or under extract ventilation.
Bulk transfers(open sys-	Ensure material transfers are under containment or extract

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tems)with potential for aer-	ventilation.
osol generation.	
Bulk transfers(closed sys-	Ensure material transfers are under containment or extract
tems)	ventilation.
Equipment cleaning and	Drain down and flush system prior to equipment opening or
maintenance	maintenance.
Storage.General measures	Provide extraction ventilation at points where emissions oc-
(skin irritants).	cur.
Section 2.2	Control of Environmental Exposure
No exposure assessment pre	esented for the environment.

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has b	peen used to estimate workplace exposures unless otherwise

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# Section 3.2 - Environment

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - 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.

# Section 4.2 - Environment No exposure assessment presented for the environment.

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# **Exposure Scenario - Worker**

30000000554	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as an intermediate- Industrial
Use Descriptor	Sector of Use: SU 3, SU8, SU9 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 Environmental Release Categories: ERC6a
Scope of process	Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of	Use	
Covers daily exposures up to	8 hours (unless stated differently).	
Other Operational Conditio		
	Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.	
Contributing Scenarios	Risk Management Measures	
General exposures (closed systems)	No specific measures identified.	
General exposures (closed systems) with sample collection General measures (skin irritants).	Provide extraction ventilation at points where emissions occur.	
General exposures (closed systems)Use in contained batch processes	Provide extraction ventilation at points where emissions occur.	
General exposures (open systems)Batch processwith sample collection	Provide extraction ventilation at points where emissions occur.	
Process sampling	Provide extraction ventilation at points where emissions occur.	
Laboratory activities	Handle in a fume cupboard or under extract ventilation.	
Bulk transfers(open sys-	Ensure material transfers are under containment or extract	

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tems)with potential for aer-	ventilation.
osol generation.	
Bulk transfers(closed sys-	Ensure material transfers are under containment or extract
tems)	ventilation.
Equipment cleaning and	Drain down and flush system prior to equipment opening or
maintenance	maintenance.
Storage.General measures	Provide extraction ventilation at points where emissions oc-
(skin irritants).	cur.
Section 2.2	Control of Environmental Exposure
No exposure assessment pre	esented for the environment.

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has b	peen used to estimate workplace exposures unless otherwise

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

# Section 3.2 - Environment

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	
Des Peter Learners and a sector Literature Little DNI/AA/EL Learner (Le D'el Manager)	

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.

# Section 4.2 -Environment No exposure assessment presented for the environment.

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# **Exposure Scenario - Worker**

30000000556	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Distribution of substance- Industrial
Use Descriptor	Sector of Use: SU 3, SU8, SU9 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 15 Environmental Release Categories: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC7
Scope of process	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.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Sub-	Covers use of substance/product up to 100% (unless stated	;
stance in Mixture/Article	differently).,	
Frequency and Duration of	Use	
Covers daily exposures up to	8 hours (unless stated differently).	
Other Operational Conditio		
	an 20°C above ambient temperature (unless stated differently)	).
Assumes a good basic stand	ard of occupational hygiene is implemented.	
Contributing Scenarios	Risk Management Measures	
General exposures (closed systems)	No other specific measures identified.	
General exposures (closed systems) with sample collection General measures (skin irritants).	No other specific measures identified.	
General exposures (closed systems)Use in contained batch processes	No other specific measures identified.	
General exposures (open systems)Batch processwith sample collection	Provide extraction ventilation at points where emissions occur.	
Product sampling.	Provide extraction ventilation at points where emissions occur.	
Laboratory activities	Provide extraction ventilation at points where emissions occur.	

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Bulk transfers(closed systems)	Ensure material transfers are under containment or extract ventilation.
Bulk transfers(open systems)	Ensure material transfers are under containment or extract ventilation.
Drum and small package filling	Provide extraction ventilation at points where emissions occur.
Equipment cleaning and maintenance	Drain down and flush system prior to equipment opening or maintenance.
Storage.	Store substance within a closed system.
Section 2.2	Control of Environmental Exposure
No exposure assessment pre	esented for the environment.

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise	

indicated.

# Section 3.2 - Environment

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - 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.

# Section 4.2 - Environment

No exposure assessment presented for the environment.

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# **Exposure Scenario - Worker**

30000000560	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Formulation & (re)packing of substances and mixtures- Industrial
Use Descriptor	Sector of Use: SU 3, SU 10 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 14, PROC 15 Environmental Release Categories: ERC2
Scope of process	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of	Use
	8 hours (unless stated differently).
Other Operational Condition	ns affecting Exposure
	n 20°C above ambient temperature (unless stated differently). ard of occupational hygiene is implemented.
Contributing Scenarios	Risk Management Measures
General exposures (closed systems)	No other specific measures identified.
General exposures (closed systems) with sample collectionGeneral measures (skin irritants).	No other specific measures identified.
General exposures (closed systems)Use in contained batch processes	No other specific measures identified.
General exposures (open systems)Batch processwith sample collectionwith potential for aerosol generation.	Provide extraction ventilation at points where emissions occur.
Batch processes at elevated temperatures	Provide extraction ventilation at points where emissions occur.

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Process sampling	Provide extraction ventilation at points where emissions occur.
Laboratory activities	Handle in a fume cupboard or under extract ventilation.
Bulk transfers	Provide extraction ventilation at points where emissions occur.
Mixing operations (open systems) with potential for aerosol generation.	Provide extraction ventilation at points where emissions occur.
ManualTransfer from/pouring from containers	Provide extraction ventilation at points where emissions occur.
Drum/batch transfers	Provide extraction ventilation at points where emissions occur.
Production or preparation or articles by tabletting, compression, extrusion or pelletisation	Provide extraction ventilation at points where emissions occur.
Drum and small package filling	Ensure material transfers are under containment or extract ventilation.
Equipment cleaning and maintenance	Drain down and flush system prior to equipment opening or maintenance.
Storage.	Store substance within a closed system.
Section 2.2	Control of Environmental Exposure
No exposure assessment pre	esented for the environment.

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

## **Section 3.2 - Environment**

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO
Section 4.1 - 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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Section 4.2 -Environment

No exposure assessment presented for the environment.

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# **Exposure Scenario - Worker**

3000000565	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents- Industrial
Use Descriptor	Sector of Use: SU 3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 10, PROC 13 Environmental Release Categories: ERC4
Scope of process	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.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT
	MEASURES
Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of the Sub-	Covers use of substance/product up to 100% (unless stated
stance in Mixture/Article	differently).,
Frequency and Duration of	Use
Covers daily exposures up to	8 hours (unless stated differently).
Other Operational Conditio	ns affecting Exposure
	an 20°C above ambient temperature (unless stated differently) ard of occupational hygiene is implemented.
Contributing Scenarios	Risk Management Measures
Bulk transfers	Ensure material transfers are under containment or extract ventilation.
Automated process with (semi) closed systems.Use in contained systems	Ensure material transfers are under containment or extract ventilation.
Automated process with (semi) closed systems.Use in contained systems	Ensure material transfers are under containment or extract ventilation.
Application of cleaning products in closed systemsUse in contained systems	Ensure material transfers are under containment or extract ventilation.
Filling/ preparation of equipment from drums or containers. Dedicated facility	Ensure material transfers are under containment or extract ventilation.

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No exposure assessment presented for the environment.		
Section 2.2	Control of Environmental Exposure	
Storage.Product sampling.	Ensure material transfers are under contaventilation.	ainment or extract
Equipment cleaning and maintenance	Ensure material transfers are under contaventilation.	ainment or extract
CleaningManualSurfacesno spraying	Provide the operation with a properly site	d receiving hood.
Cleaning with high pressure washers	Carry out in a vented booth or extracted of Stay upwind/ keep distance from source. Clean equipment and the work area ever Ensure control measures are regularly intained.	y day.
Cleaning with low-pressure washers	Provide the operation with a properly site	
Degreasing small objects in cleaning station	Provide the operation with a properly site	d receiving hood.
Use in contained batch processesTreatment by heating	Provide the operation with a properly site	d receiving hood.

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise	
indicated	

Section 3.2 -Environment
No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management	
Measures/Operational Condi	tions 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.

Section 4.2 -Environment
No exposure assessment presented for the environment.

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# **Methanol**

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30000000566	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents- Professional
Use Descriptor	Sector of Use: SU 22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13 Environmental Release Categories: ERC8a, ERC8d
Scope of process	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).

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated
	differently).,
Frequency and Duration of Use Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Condition	ons affecting Exposure
Assumes use at not more than 20°C above ambient temperature (unless stated differently).	
Assumes a good basic standard of occupational hygiene is implemented.	
Contributing Scenarios	Risk Management Measures
Filling/ preparation of equipment   Limit the substance content in the product to 5 %.	

Contributing Scenarios	Risk	Management Measures	
Filling/ preparation of equipm from drums or containers.Dedicated facility		Limit the substance content in the product to 5 %. , or: Ensure material transfers are under containment or extra ventilation.	ct
Automated process with (sem closed systems.Use in contain systems	,	Provide the operation with a properly sited receiving hood	d.
Automated process with (sem closed systems. Use in contail systems. Drum/batch transfers	ned	Provide the operation with a properly sited receiving hood	d.
Semi Automated process. (e. Semi automatic application of floor care and maintenance pucts)	F	Provide the operation with a properly sited receiving hood Avoid carrying out activities involving exposure for more than 4 hours	d.
Filling/ preparation of equipm from drums or containers.Nor dedicated facility		Limit the substance content in the product to 5 %. , or: Ensure material transfers are under containment or extra	ct

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	ventilation.
Dipping, immersion and pouring- ManualCleaningSurfaces	Provide the operation with a properly sited receiving hood.
Cleaning with low-pressure washersRolling, Brushingno spraying	Limit the substance content in the product to 5 %.
Cleaning with high pressure washersSpraying	Limit the substance content in the product to 5 %. Avoid carrying out activities involving exposure for more than 4 hours Use long handled tools where possible. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
SprayingManualSurfacesCleaning	Limit the substance content in the product to 5 %. , or: Provide the operation with a properly sited receiving hood.
Ad hoc manual application via trigger sprays, dipping, etc.Rolling, Brushing	Limit the substance content in the product to 5 %. , or: Provide the operation with a properly sited receiving hood.
Ad hoc manual application via trigger sprays, dipping, etc.Rolling, Brushing	Limit the substance content in the product to 5 %.
Application of cleaning products in closed systems	Ensure material transfers are under containment or extract ventilation. Avoid carrying out activities involving exposure for more than 4 hours
Cleaning of medical devices	Provide the operation with a properly sited receiving hood. Avoid carrying out activities involving exposure for more than 4 hours
Equipment cleaning and maintenance	Limit the substance content in the product to 5 %.
Storage.General measures (skin irritants).	Ensure material transfers are under containment or extract ventilation.

Section 2.2	Control of Environmental Exposure	
No exposure assessment presented for the environment.		

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has be indicated.	een used to estimate workplace exposures unless otherwise

# Section 3.2 -Environment

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SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

#### Section 4.1 - 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.

#### **Section 4.2 - Environment**

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30000000562	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as a fuel- Industrial
Use Descriptor	Sector of Use: SU 3, SU 10 Process Categories: PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16 Environmental Release Categories: ERC7
Scope of process	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of		
	8 hours (unless stated differently).	
Other Operational Conditio	ns affecting Exposure	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		
Contributing Scenarios	Risk Management Measures	
Bulk transfers	No other specific measures identified.	
Drum/batch transfers	Provide extraction ventilation at points where emissions occur.	
General exposures (closed systems)	No other specific measures identified.	
General exposures (closed systems)General measures (skin irritants).	Provide extraction ventilation at points where emissions occur.	
General exposures (closed systems)Batch process	Provide extraction ventilation at points where emissions occur.	
Use as a fuel(closed systems)	No other specific measures identified.	
Equipment cleaning and maintenance	Drain down and flush system prior to equipment opening or maintenance.	
Storage.	Store substance within a closed system.	

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Section 2.2	Control of Environmental Exposure	
No exposure assessment presented for the environment.		

SECTION 3	EXPOSURE ESTIMATION	
Section 3.1 - Health		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.		

#### **Section 3.2 - Environment**

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - 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.	

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.

#### Section 4.2 - Environment

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30000000563	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as a fuel- Professional
Use Descriptor	Sector of Use: SU 22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16 Environmental Release Categories: ERC9a, ERC9b
Scope of process	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of	Use
Covers daily exposures up to	8 hours (unless stated differently).
Other Operational Conditio	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.	
Contributing Scenarios	Risk Management Measures
Drum/batch transfersDedicated facility	Avoid carrying out activities involving exposure for more than 1 hour.
Bulk transfersDedicated facility	Avoid carrying out activities involving exposure for more than 1 hour.
General exposures (closed systems)	No other specific measures identified.
General exposures (closed systems)General measures (skin irritants).	No other specific measures identified.
General exposures (closed systems)Batch process	No other specific measures identified.
Use as a fuel(closed systems)	No other specific measures identified.
Equipment cleaning and maintenance	Drain down system prior to equipment opening or maintenance. Avoid carrying out activities involving exposure for more than 1 hour.

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Storage.	Store substance within a closed system.
Section 2.2	Control of Environmental Exposure
No exposure assessment presented for the environment.	

SECTION 3	EXPOSURE ESTIMATION	
Section 3.1 - Health		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.		

# Section 3.2 -Environment

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - 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.	

#### Section 4.2 -Environment

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30000000567	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in laboratories- Industrial
Use Descriptor	Sector of Use: SU 3, SU 10 Process Categories: PROC 10, PROC 15 Environmental Release Categories: ERC4
Scope of process	Use of the substance within laboratory settings, including material transfers and equipment cleaning.

SECTION 2	OPERATIONAL CONDITIONS AND RIS MEASURES	K MANAGEMENT
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Sub-	Covers use of substance/product up to 10	00% (unless stated
stance in Mixture/Article	differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently).		
Assumes a good basic standard of occupational hygiene is implemented.		
Contributing Scenarios	Risk Management Measures	
Laboratory activities	Handle in a fume cupboard or under extra	act ventilation.
CleaningRolling, Brush-	Handle in a fume cupboard or under extra	act ventilation.
ingVessel and container	·	
cleaning		
Section 2.2	Control of Environmental Exposure	
No exposure assessment presented for the environment.		

SECTION 3	EXPOSURE ESTIMATION	
Section 3.1 - Health		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.		

Section 3.2 -Environment	
No exposure assessment presented for the environment.	

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	

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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.

#### **Section 4.2 - Environment**

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Exposure oceriano - Worker		
30000000568		
SECTION 1	EXPOSURE SCENARIO TITLE	
Title	Use in laboratories- Professional	
Use Descriptor	Sector of Use: SU 22 Process Categories: PROC 10, PROC 15 Environmental Release Categories: ERC8a	
Scope of process	Use of small quantities within laboratory settings, including material transfers and equipment cleaning.	

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAMEASURES	AGEMENT	
Section 2.1	Control of Worker Exposure		
Product Characteristics			
Physical form of product	Liquid, vapour pressure > 10 kPa at STP		
Concentration of the Sub-	Covers use of substance/product up to 100% (unl	ess stated	
stance in Mixture/Article	differently).,		
Frequency and Duration of Use			
Covers daily exposures up to 8 hours (unless stated differently).			
Other Operational Conditions affecting Exposure			
Assumes use at not more than 20°C above ambient temperature (unless stated differently).			
Assumes a good basic standard of occupational hygiene is implemented.			
Contributing Scenarios	Risk Management Measures		
Laboratory activities	Handle in a fume cupboard or under extract ventilation.		
CleaningRolling, Brush-	Handle in a fume cupboard or under extract ventilation.		
ingVessel and container	·		
cleaning			
Section 2.2	Control of Environmental Exposure	•	
No exposure assessment pre	esented for the environment.		

SECTION 3	EXPOSURE ESTIMATION	
Section 3.1 - Health		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.		

Section 3.2 -Environment	
No exposure assessment presented for the environment.	

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	

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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.

#### **Section 4.2 - Environment**

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#### **Exposure Scenario - Consumer**

30000001067	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents - Consumer
Use Descriptor	Sector of Use: SU 21 Product Categories: PC35 Environmental Release Categories: ERC8a, ERC8d
Scope of process	Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES		
Section 2.1	Control of Consumer Exposure		
Product Characteristics			
Physical form of product	Liquid, vapour pressure > 10 Pa		
Concentration of the Substance in Mixture/Article	Covers concentration up to (%): 5 %		
Amounts Used			
for each use event, covers a	mount up to (g):	100	
Frequency and Duration of Use			
Covers use up to (days/year):		365	
Exposure (hours/event):		2.00	
Other Operational Conditions affecting Exposure			
Covers use at ambient temperatures.			

Covers use in a one car garage (34 m3) under typical ventilation.

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Washing and cleaning products (including solvent based products) Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners).	Covers concentrations up to 2.5 %
	covers use up to 102 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 1,900 cm2
	For each use event, covers amount up to 100 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers exposure up to 2.00 hours/event

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Washing and cleaning products (including solvent based products) Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners).	Covers concentrations up to 5 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 960 cm2
	For each use event, covers amount up to 16.2 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers exposure up to 1.00 hours/event

Section 2.2	Control of Environmental Exposure	
No exposure assessment presented for the environment.		

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.

The Consexpo model has been used to estimate consumer exposures unless otherwise indicated.

#### Section 3.2 -Environment

No exposure assessment presented for the environment.

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO	
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management	

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.

# Section 4.2 -Environment No exposure assessment presented for the environment.

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**Exposure Scenario - Consumer** 

30000001066	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as a fuel - Consumer
Use Descriptor	Sector of Use: SU 21 Product Categories: PC13 Environmental Release Categories: ERC9a, ERC9b
Scope of process	Covers consumer uses in liquid fuels.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Section 2.1	Control of Consumer Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 Pa	
Concentration of the Sub-	Covers concentration up to (%): 10	0 %
stance in Mixture/Article		
Amounts Used		
for each use event, covers amount up to (g):		37,500
Frequency and Duration o	f Use	·
Covers use up to (days/year):		104
Exposure (hours/event):		0.05
Other Operational Condition	ons affecting Exposure	•
Covers use at ambient temp	peratures.	
Covers use in room size of 2	20m3	
0		

Covers use under typical household ventilation.

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Fuels Liquid: Automotive Refuelling.	Covers concentrations up to 100 %
	covers use up to 104 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 210 cm2
	For each use event, covers amount up to 37,500 g
	Covers outdoor use.
	Covers use in room size of 100 m3
	Covers exposure up to 0.05 hours/event
Fuels	Covers concentrations up to 80 %
	covers use up to 104 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 210 cm2
	For each use event, covers amount up to 800 g
	Covers outdoor use.

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Covers use in room size of 20 m3
Covers exposure up to 0.01 hours/event

Section 2.2	Control of Environmental Exposure	
No exposure assessment presented for the environment.		

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.

The Consexpo model has been used to estimate consumer exposures unless otherwise indicated.

#### Section 3.2 - Environment

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO
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#### Section 4.1 - 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.

#### Section 4.2 - Environment

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**Exposure Scenario - Consumer** 

30000001068	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	De-icing and anti-icing applications - Consumer
Use Descriptor	Sector of Use: SU 21 Product Categories: PC4 Environmental Release Categories: ERC8a, ERC8d
Scope of process	Use in de-icing and anti-icing fluids

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Additional Information	No exposure assessment presented for the environment.	
Section 2.1	Control of Consumer Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 Pa	
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
	Covers concentration up to (%): 0	.59 %
Amounts Used		
Unless stated otherwise.covers amount up to (g):		100
Frequency and Duration of	Use	
Unless stated otherwise.Covers use up to (days/year):		365
for each use eventExposure (hours/event): 2.00		2.00
Other Operational Conditions affecting Exposure		

Unless stated otherwise.

Covers use at ambient temperatures.

Covers use in a one car garage (34 m3) under typical ventilation.

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Anti-Freeze and de-icing products Washing car window.	Covers concentrations up to 0.59 %
	covers use up to 104 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 1,900 cm2
	For each use event, covers amount up to 100 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	for each use event Covers exposure up to 4.00 hours/event
Anti-Freeze and de-icing products Lock de-icer.	Covers concentrations up to 0.59 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 960 cm2

According to EC No 1907/2006 as amended as at the date of this SDS

#### **Methanol**

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6.2 28.02.2025 800001033917 Print Date 07.03.2025

For each use event, covers amount up to 16.2 g
Covers use in a one car garage (34 m3) under typical ventila-
tion.
for each use event Covers exposure up to 1.00 hours/event

Section 2.2	Control of Environmental Exposure	
No exposure assessment presented for the environment.		

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.

The Consexpo model has been used to estimate consumer exposures unless otherwise indicated.

#### **Section 3.2 - Environment**

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Continu 4.4 Honkle	

#### Section 4.1 - 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.

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

#### **Section 4.2 - Environment**