



MATERIAL SAFETY DATA SHEET

1. Identification of the product

Product name **Methanol (Methyl alcohol)**
Use **Chemical raw material**
Producer **ECOFUEL SpA**
 Via F. Maritano, 26 – 20097 San Donato Milanese (MI)
 Telephone: 02 52056157 - 46980 Fax: 02 52056155

E-mail contact address - Competent person responsible for the Safety Data Sheet (Reg. EC nr. 1907/2006): REACH@ecofuel.eni.it

Emergency telephone number:
National Centre for Toxicological Information: (+ 39) 0382/24444

2. Hazards identification

2.0 General information: This product is classified as dangerous according to the present EU regulations (F, T; R 11-23/24/25-39/23/24/25)

2.1 Physical-chemical dangers: This product is highly flammable, with a high fire hazard. Vapours form flammable/explosive mixtures with air. The vapours are heavier than air and will accumulate in closed or underground areas. Vapours will also flow to ground level, with backfire and explosion hazard. This product burns with a clear, almost colourless flame,

2.2 Dangers for human health:

General information: This product is toxic by ingestion, inhalation and absorption through the skin, and acts mainly on the nervous system. Immediate effects are headache, dizziness, nausea, vomiting and blurred vision. Final or long term effects include blindness, coma and death. These effects may be delayed, or may appear after prolonged exposure.

Contact with skin: The product is toxic in contact with skin. Repeated or prolonged contact with skin may also cause reddening, irritation and contact dermatitis, mostly due to a defatting action

Contact with eyes: An accidental contact or prolonged exposure may cause irritation.

Inhalation: This product is toxic by inhalation. Exposure to high concentration may cause irritation to airways, nausea and dizziness with loss of consciousness. Prolonged exposure may also cause long-term damages

Ingestion: Toxic by ingestion. Prolonged exposure may also cause long-term damages

Aspiration into the lungs: No specific danger. However, aspiration of a foreign substance into the lungs (which may happen directly during swallowing, or indirectly in case of natural or induced vomiting following ingestion) may in any case cause chemical pneumonitis.

Effects of chronic exposure: prolonged/chronic exposure may cause serious irreversible effects (general intoxication, damages to nervous system, blindness).

2.3 Danger for the environment: the product is biodegradable, and offers no specific dangers to the environment.

2.4 Other dangers: In some circumstances, the product may accumulate static charges, with a risk of discharges which may cause fire or explosions.

3 Composition/information on ingredients

Methanol (methyl alcohol) : > 97 % p (CAS 67-56-1 / EINECS 200-659-6; F, T; R 11-23/24/25-39/23/24/25)

For the full text of the R-phrases quoted in this section, see section 16.

4. First aid measures

SKIN CONTACT: remove contaminated clothing and shoes (Caution: fire hazard!); wash with water and soap. Wash clothing before re-use. Consult a doctor in case of persisting irritation or other ill effects.

EYE CONTACT: flush with large amounts of water for at least 10 minutes, opening well the eyelids; consult a specialist;

INGESTION: do not induce vomiting or give anything by mouth to an unconscious person. If possible, rinse mouth with water, keep victim at rest, call immediately a doctor or bring to an hospital. Induce vomiting ONLY AS DIRECTED BY MEDICAL PERSONNEL.

ASPIRATION OF LIQUID INTO THE LUNGS: if aspiration is suspected (e.g. in case of vomiting), transport to a hospital urgently;

INHALATION: if overcome by vapours, remove immediately from exposure using proper rescue precautions, keep at rest; get medical assistance urgently. If breathing is difficult or has stopped, administer artificial respiration. If heart has stopped, use cardiac massage.

INFORMATION TO MEDICAL PERSONNEL: this product may have delayed dangerous effects 18 – 24 hrs after exposure

5. Firefighting measures

- Suitable extinguishing media: alcohol foam, carbon dioxide, dry chemical powder. Water spray (fog) should be used only by trained personnel.
 - Cool tanks and containers exposed to fire with water. Do not use water jets on the burning product.
 - Cover spillages, which are not burning, with foam or sand.
 - Special protective equipment for fire-fighters: Self-contained breathing apparatus, and personal protection means.
 - Dangerous combustion products: COx and oxygenated compounds (formaldehyde).
 - Recover and treat separately all waters used for firefighting
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6. Accidental release measures

Shut off source of product, if possible; prevent liquid from entering sewers or underground spaces. Ventilate area, eliminate sources of ignition.

Use only no-sparking tools and explosion-proof equipment.

If necessary, notify authorities according to national or local regulations.

6.1 Land spill: contain spilled liquid with sand, earth or other suitable absorbents; collect waste materials into suitable containers (waterproof, chemical resistant); dispose of according to local regulations.

It could be necessary to dilute the product with water in a controlled way, in order to avoid the danger of fire.

6.2 Water spill: the product is soluble in water. If possible, remove by skimming or absorbing with suitable media; collect waste materials into suitable containers (waterproof, chemical resistant); notify competent authorities according to local legislation.

7. Handling and storage

- Handle and store the product in well-ventilated surrounding. Storage temperature 45 °C max
- Electrical equipment and fittings must comply with local fire prevention regulations for this class of product. Use the correct grounding procedures. Prevent the build-up of static charges
- Keep away from sources of ignition. Storage areas must comply with the relevant safety dispositions
- Do not use containers of aluminium, copper or copper alloys, zinc or zinc-coated steel.
- Avoid exposure, contact with skin or eyes. Do not breathe vapours.

8. Exposure controls/personal protection

8.1 Respiratory protection

Exposure controls: most significant exposure limits:

TLV - TWA methanol 200 ppm (TLV-STEL 250 ppm) (A.C.G.I.H. 2007)

If necessary, refer to the other limits listed in the national or workplace regulations.

Control procedures: If necessary, refer to national regulations or in any case to the good practices of industrial hygiene.

8.2 Personal protection:

In case the concentration of the product is above the exposure limits, and if plant characteristics, work procedures and other means are not able to reach the purpose, it is necessary to use suitable means of personal protection.

Respiratory protection: Open or well ventilated areas not necessary. Closed or confined areas (e.g. tank interiors): self-contained breathing apparatus. If necessary, refer to the relevant national standards

Personal protection: Long-sleeved overalls. If necessary, refer to the EN 465-466-467 standards.

When there is a risk of contact with the eyes, use safety goggles or other means of protection. If necessary, refer to national standards or to the EN 166 standard.

When there is a risk of contact with the skin, use chemical-resistant, felt-lined gloves.

According to experience, it is expected that gloves made of Nitrile or Butyl rubber are adequate for this use.

Gloves made of: Neoprene rubber, PVA (polyvinyl alcohol), PVC or Natural rubber (Latex) are not expected to have adequate resistance.

Use gloves respecting all the conditions and within the limits set by the manufacturer. If necessary, refer to EN 374 standard.

Replace immediately gloves if they show holes, cuts, abrasions or other signs of damage.

8.3 Hygiene measures:

Avoid contact with skin and eyes

Do not breathe vapours or mists.

Do not keep dirty rags in the overall pockets.

Do not drink, eat or smoke with dirty hands.

Wash hands with soap and water; do not use solvents or other irritant products which have a defatting effect on the skin.

9. Physical and chemical properties

Appearance:	Bright & clear liquid	ASTM D 4176/1
Colour:	colourless	
Odour:	pungent	
Density at 15°C, kg/m ³ :	792	ASTM D 1298
Vapour pressure at 37,8 °C, kPa	31.7	
Viscosity at 20°C, mm ² /s:	N.D.	ASTM D 445
Initial boiling point at 760 mmHg, °C:	65	ASTM D 86
Flash point, °C:	11	ASTM D 56
Autoflammability, °C:	455	DIN 51794
Explosive limits, % vol.:	LEL: 6 UEL: 36	
Solubility (water)	Totally soluble	
pH:	N.D.	
Partition coefficient (water/n-octanol)	-0.76	

10. Stability and reactivity

Dangerous thermal decomposition products:	COx, oxygenated products, formaldehyde
Stability:	stable product
Hazardous reactions	none
Incompatible materials	strong oxidants, acids and alkalis. Alkali metals, aluminium (reaction with emission of hydrogen)

11. Toxicological information

• Acute toxicity

LD ₅₀ oral (rat):	5628 mg/kg
LD ₅₀ oral (mouse):	7300 mg/kg
LC ₅₀ inhalation (rat):	64000 ppm/4h

This product has toxic effects by inhalation, ingestion and absorption through the skin. The most serious effects may be blindness, or loss of consciousness, coma and death. May cause irritation to skin, eyes and upper airways.

• Chronic toxicity

Methanol has adverse effects (damage to the optic nerve, and else), also through prolonged exposure and accumulation in the body, as it is eliminated slowly from the body

There is no evidence of carcinogenic effects. This substance is not classified by the EU either as a carcinogen, as a mutagen, or as toxic for reproduction.

12. Ecological information

This product is highly volatile, completely soluble in water and highly mobile in soil. It is biodegradable (> 90% after 20 days). COD = 1420 mg/g.

Toxicity for water organismsLC₅₀ fish: 10800 mg/lEC₅₀ daphnia: 24500 mg/lEC₅₀ algae: 8000 mg/l

Bioaccumulation: slightly bioaccumulative (BCF < 10)

WGK Class : 1

Effect on Waste Water Treatment Plants: inhibition at 800 mg/l

Handle according to general working hygiene practices, to avoid pollution and release into the environment.

13. Disposal considerations

Do not discharge in sewers, tunnels or water courses. Dispose of according to local regulations.

European Waste Catalogue Code (suggested): 16 03 05

Note: this code is given only as a suggestion, according to the original composition of the product, and its intended use. The user has the final responsibility for the application of the most suitable code, according to the actual use of the product, contaminations or alterations.

Disposal of empty containers; deliver to the original supplier, or to an authorized disposal organizations. Do not cut, weld, bore, burn or incinerate empty containers, unless they have been cleaned and declared safe.

14. Transport information

Proper UN shipping name: "METHANOL"

UN Nr. 1230

R.I.D./A.D.R	class 3 + 6.1	Packaging gr. II	KEMLER nr: 336
I.A.T.A.	class 3 + 6.1	Packaging gr. II	
I.M.D.G.	class 3 + 6.1	Packaging gr. II	EmS F-E, S-D

MARPOL Annex II : Pollution Category Y

15. Regulatory information

EU directives on Classification and Labelling of Dangerous substances (Directives: 67/548/CE, its modifications, and ATP - Adaptations to Technical progress)

Labelling

Symbols



Indication of danger

**HIGHLY
FLAMMABLE**

TOXIC

R-Phrases

R 11	Highly flammable
R 23/24/25	Toxic by inhalation, ingestion and through absorption by skin
R 39/23/24/25	Toxic: danger of very serious irreversible effects by inhalation, ingestion and absorption through skin

S- Phrases

- S 7** Keep in a closed container
S 16 Keep away from sources of ignition. No smoking
S 36/37 Wear suitable protective clothing and gloves
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

Directives 89/391/EEC, 89/654/EEC, 89/655/EEC, 89/565/EEC , 90/269/EEC, 90/270/EEC, 90/394/EEC, 90/679/EEC, 93/88/CEE, 95/63/CE, 97/42/CE, 98/24/CE, 99/38/CE, 99/92/CE, 2001/45/CE, 2003/10/CE and 2003/18/CE.

16. Other information

16.1 Other uses of the product: Do not use the product for any purposes that have not been advised by the manufacturer. In that case, the user could be exposed to unforeseeable dangers.

16.2 Text of R-phrases: Complete text of the R-phrases quoted in this Safety Sheet. These phrase are quoted for information only, and may not correspond to the classification of the final product.

R 11: Highly flammable.

R 23/24/25. Toxic through inhalation, in contact with skin and if swallowed.

R 39/23/24/25. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed

16.3 Document references: This Safety Data Sheets conforms to the dispositions of Regulation (EC) 1907/2006 (REACH)

16.4 Document revision: Sect.: 2, 3, 8, 16.

This information relates only to the specific product designed and may not be valid for such material used in combination with any other materials or in any process The information in this sheet are to our best knowledge at JANUARY 2008
