

Material Safety Data Sheet

According to 91/155 EEC

Printing date 10.11.2005

Version 1

Reviewed on 10.11.2005

1 Identification of the substance/preparation and of the company/undertaking

- **Product details**
- **Trade name:** Ecomate
- **Creation date:** 11/08/2005
- **Application of the substance / the preparation**
- **Manufacturer/Supplier:**
 BOC, The Priestly Centre
 10 Priestly Road
 The Surrey Research Park
 Guildford
 Surrey
 GU2 7XY
 Emergency telephone number: +44(0)1469 - 577977
- **Further information obtainable from:** Customer Service

2 Composition/information on ingredients

- **Chemical characterization**

- **Dangerous components:**

CAS: 107-31-3	methyl formate	☒ Xn, ☒ F+; R 12-20/22-36/37	97.5%
EINECS: 203-481-7			
CAS: 67-56-1	Methanol	☒ T, ☒ F; R 11-23/24/25-39/23/24/25	2.5%
EINECS: 200-659-6			

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

3 Hazards identification

- **Hazard description:**



Xn Harmful
 F+ Extremely flammable

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 12 Extremely flammable.

R 20/22 Harmful by inhalation and if swallowed.

R 36/37 Irritating to eyes and respiratory system.

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· Classification system:

The classification is in line with current EC lists. It is extended, by information from technical literature and company information.

4 First aid measures

· General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

· After skin contact: Immediately rinse with water.**· After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing: Call for a doctor immediately.

5 Fire-fighting measures

· Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.

· For safety reasons unsuitable extinguishing agents: Water with full jet

· Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

· Person-related safety precautions: Wear protective equipment. Keep unprotected persons away.

· Measures for environmental protection: Do not allow to enter sewers/ surface or ground water.

· Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

7 Handling and storage

· Handling:**· Information for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

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· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· Storage:**· Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Do not expose cylinder to temperatures higher than 52°C (125 °F)

· Information about storage in one common storage facility: Not required.**· Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Store receptacle in a well ventilated area.

Store in accordance with local fire code and/or building code or any pertaining regulations.

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· Ingredients with limit values that require monitoring at the workplace:**67-56-1 Methanol (2.5%)**

WEL Short-term value: 333 mg/m³, 250 ppm

Long-term value: 266 mg/m³, 200 ppm

· **Additional information:** The lists valid during the making were used as basis.

· Personal protective equipment:**· General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Use suitable respiratory protective device in case of insufficient ventilation.

· Protection of hands:

For the permanent contact in work areas with heightened risk of injury (mechanical hazard) no recommendation for a suitable glove material can be given.

· Material of gloves Butyl rubber, BR**· Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:


Tightly sealed goggles

9 Physical and chemical properties

· General Information

Form:	Fluid
Colour:	Colourless
Odour:	Pleasant

· Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 31°C

· Flash point: < 0°C

· Ignition temperature: 450.0°C

· Danger of explosion: Product does not present an explosion hazard.
 In use, may form flammable/explosive vapour-air mixture.

· Explosion limits:

Lower:	5.0 Vol %
Upper:	23.0 Vol %

· Solubility in / Miscibility with

water: Not miscible or difficult to mix.

10 Stability and reactivity

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· Dangerous reactions Forms explosive gas mixture with air.

· Dangerous decomposition products: Carbon monoxide and carbon dioxide

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11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

107-31-3 methyl formate

Oral	LD50	1622 mg/kg (rabbit)
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67-56-1 Methanol

Oral	LD50	5628 mg/kg (rat)
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Dermal	LD50	15800 mg/kg (rabbit)
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· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

12 Ecological information

· **General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

· **Product:**

· **Recommendation**

On the basis of the necessary technical regulations and after consultation with the disposal agent and the relevant authorities, can be disposed of with waste or incinerated with waste.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

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14 Transport information

· Land transport ADR/RID (cross-border)



- ADR/RID class: 3 (F1) Flammable liquids.
- Danger code (Kemler): 33
- UN-Number: 1243
- Packaging group: I
- Hazard label: 3
- Description of goods: 1243 METHYL FORMATE

· Maritime transport IMDG:



- IMDG Class: 3
- UN Number: 1243
- Label: 3
- Packaging group: I
- EMS Number: F-E,S-D
- Marine pollutant: No
- Proper shipping name: METHYL FORMATE

· Air transport ICAO-TI and IATA-DGR:



- ICAO/IATA Class: 3
- UN/ID Number: 1243
- Label: 3
- Packaging group: I
- Proper shipping name: METHYL FORMATE

15 Regulatory information

· Labelling according to EU guidelines:

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

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· Code letter and hazard designation of product:*Xn Harmful**F+ Extremely flammable***· Hazard-determining components of labelling:***methyl formate***· Risk phrases:***12 Extremely flammable.**20/22 Harmful by inhalation and if swallowed.**36/37 Irritating to eyes and respiratory system.***· Safety phrases:***3 Keep in a cool place.**9 Keep container in a well-ventilated place.**16 Keep away from sources of ignition - No smoking.**23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).**26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.**60 This material and its container must be disposed of as hazardous waste.*

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant R-phrases*11 Highly flammable.**12 Extremely flammable.**20/22 Harmful by inhalation and if swallowed.**23/24/25 Toxic by inhalation, in contact with skin and if swallowed.**36/37 Irritating to eyes and respiratory system.**39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.*