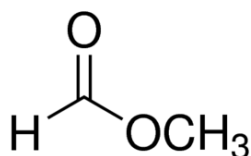


### MATERIAL SAFETY DATA SHEET (MSDS)

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

##### 1.1. Product identifier

Product form : Substance  
:  
EC index no : 607-014-00-1  
EC no : 203-481-7  
CAS No : 107-31-3  
Product code : 04653  
Formula : C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>  
Chemical structure :



Synonyms : Formic acid methyl ester

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

###### 1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

###### 1.2.2. Uses advised against

No additional information available

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

LOBA CHEMIE PVT.LTD.  
107 Wode House Road, Jehangir Villa, Colaba  
400005 Mumbai - INDIA  
T +91 22 6663 6663 - F +91 22 6663 6699  
[info@lobachemie.com](mailto:info@lobachemie.com) - [www.lobachemie.com](http://www.lobachemie.com)

##### 1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (9:00am - 6:00 pm)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

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

Flammable liquids, H224  
Category 1  
Acute toxicity (inhal.), H332  
Category 4  
Acute toxicity (oral), H302  
Category 4  
Serious eye damage/eye irritation, Category 2 H319

# METHYL FORMATE FOR SYNTHESIS

## Safety Data Sheet

Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation H335

Full text of classification categories and H statements : see section 16

### Classification according to Directive 67/548/EEC or 1999/45/EC

F+; R12  
Xn; R20/22  
Xi; R36/37

Full text of R-phrases: see section 16

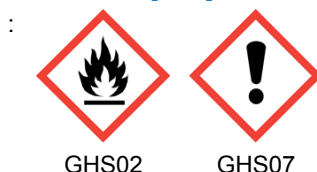
### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: -

Hazard statements (CLP)

: H224 - Extremely flammable liquid and vapour  
H302+H332 - Harmful if swallowed or if inhaled  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation

Precautionary statements (CLP)

: P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name : METHYL FORMATE FOR SYNTHESIS  
CAS No : 107-31-3  
EC no : 203-481-7  
EC index no : 607-014-00-1

# METHYL FORMATE FOR SYNTHESIS

## Safety Data Sheet

Full text of R- and H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

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

Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: dry chemical powder, alcohol-resistant foam, carbon dioxide (CO <sub>2</sub> ).
Unsuitable extinguishing media	: Do not use a heavy water stream.

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

Fire hazard	: Extremely flammable liquid and vapour.
Explosion hazard	: May form flammable/explosive vapour-air mixture.

### 5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment.
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## SECTION 6: Accidental release measures

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

General measures	: Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.
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#### 6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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#### 6.1.2. For emergency responders

Protective equipment	: Use personal protective equipment as required.
Emergency procedures	: Stop release.

### 6.2. Environmental precautions

Avoid release to the environment.

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

Methods for cleaning up	: Collect spillage. On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.
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# METHYL FORMATE FOR SYNTHESIS

## Safety Data Sheet

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed	: Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling	: No naked lights. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.
Hygiene measures	: Do not eat, drink or smoke when using this product. Wash ... thoroughly after handling.

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

Technical measures	: Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/... equipment.
Storage conditions	: Keep in fireproof place. Keep container tightly closed.
Incompatible materials	: Heat sources.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Hand protection	: protective gloves
Eye protection	: Chemical goggles or safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: Wear respiratory protection

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Molecular mass	: 60.05 g/mol
Colour	: Clear Colorless.
Odour	: ethereal.
Odour threshold	: 203.6 ppm
pH	: 4.0 - 5.0 at 200 g/l at 20 °C
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -100 °C
Freezing point	: No data available

# METHYL FORMATE FOR SYNTHESIS

## Safety Data Sheet

Boiling point	: 32 - 34
Flash point	: -19 °C
Auto-ignition temperature	: 449 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable Extremely flammable liquid and vapour
Vapour pressure	: 634.9 hPa at 20 °C
Relative vapour density at 20 °C	: 2.07
Relative density	: No data available
Density	: 0.975 g/cm <sup>3</sup>
Solubility	: Water: Easily soluble in cold water
Log Pow	: -0.21
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.05 - 0.23 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Extremely flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Sparks. Heat. Direct sunlight. Overheating. Open flame.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Inhalation: Harmful if inhaled. Oral: Harmful if swallowed.

# METHYL FORMATE FOR SYNTHESIS

## Safety Data Sheet

Skin corrosion/irritation	: Not classified pH: 4.0 - 5.0 at 200 g/l at 20 °C
Serious eye damage/irritation	: Causes serious eye irritation. pH: 4.0 - 5.0 at 200 g/l at 20 °C
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause respiratory irritation.

Specific target organ toxicity (repeated exposure)	: Not classified
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Aspiration hazard	: Not classified
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Potential adverse human health effects and symptoms	: Harmful if swallowed.
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### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

##### METHYL FORMATE FOR SYNTHESIS (107-31-3)

Log Pow	-0.21
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#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose of contents/container to ...
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# METHYL FORMATE FOR SYNTHESIS

## Safety Data Sheet

Additional information : Handle empty containers with care because residual vapours are flammable.

### SECTION 14: Transport information

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

#### 14.1. UN number

UN-No. (ADR)	: 1243
UN-No. (IMDG)	: 1243
UN-No.(IATA)	: 1243
UN-No.(ADN)	: 1243
UN-No. (RID)	: 1243

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: METHYL FORMATE
Proper Shipping Name (IMDG)	: METHYL FORMATE
Proper Shipping Name (IATA)	: METHYL FORMATE
Proper Shipping Name (ADN)	: METHYL FORMATE
Proper Shipping Name (RID)	: METHYL FORMATE
Transport document description (ADR)	: UN 1243 METHYL FORMATE, 3, I, (D/E)
Transport document description (IMDG)	: UN 1243 METHYL FORMATE, 3, I (-32°C c.c.)
Transport document description (IATA)	: UN 1243 METHYL FORMATE, 3, I
Transport document description (ADN)	: UN 1243 METHYL FORMATE, 3, I
Transport document description (RID)	: UN 1243 METHYL FORMATE, 3, I

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR)	: 3
Danger labels (ADR)	: 3



##### IMDG

Transport hazard class(es) (IMDG)	: 3
Danger labels (IMDG)	: 3



##### IATA

Transport hazard class(es) (IATA)	: 3
Hazard labels (IATA)	: 3



##### ADN

# METHYL FORMATE FOR SYNTHESIS

## Safety Data Sheet

Transport hazard class(es) (ADN) : 3  
Danger labels (ADN) : 3



### RID

Transport hazard class(es) (RID) : 3  
Danger labels (RID) : 3



### 14.4. Packing group


Packing group (ADR) : I  
Packing group (IMDG) : I  
Packing group (IATA) : I  
Packing group (ADN) : I  
Packing group (RID) : I

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : F1  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E3  
Packing instructions (ADR) : P001  
Mixed packing provisions (ADR) : MP7, MP17  
Portable tank and bulk container instructions (ADR) : T11  
Portable tank and bulk container special provisions (ADR) : TP2  
Tank code (ADR) : L4BN  
Vehicle for tank carriage : FL  
Transport category (ADR) : 1  
Special provisions for carriage - Operation (ADR) : S2, S20  
Hazard identification number (Kemler No.) : 33  
Orange plates :   
  
Tunnel restriction code (ADR) : D/E  
EAC code : •2YE



# METHYL FORMATE FOR SYNTHESIS

## Safety Data Sheet

### - Transport by sea

Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E3
Packing instructions (IMDG)	: P001
Tank instructions (IMDG)	: T11
Tank special provisions (IMDG)	: TP2
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-D
Stowage category (IMDG)	: E
Flash point (IMDG)	: -32°C c.c.
MFAG-No	: 129

### - Air transport

PCA Excepted quantities (IATA)	: E3
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: 351
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 361
CAO max net quantity (IATA)	: 30L
ERG code (IATA)	: 3H

### - Inland waterway transport

Classification code (ADN)	: F1
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E3
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1

### - Rail transport

Classification code (RID)	: F1
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E3
Packing instructions (RID)	: P001
Mixed packing provisions (RID)	: MP7, MP17
Portable tank and bulk container instructions (RID)	: T11
Portable tank and bulk container special provisions (RID)	: TP2
Tank codes for RID tanks (RID)	: L4BN
Transport category (RID)	: 1
Hazard identification number (RID)	: 33

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

METHYL FORMATE FOR SYNTHESIS is not on the REACH Candidate List

# METHYL FORMATE FOR SYNTHESIS

## Safety Data Sheet

METHYL FORMATE FOR SYNTHESIS is not on the REACH Annex XIV List

### 15.1.2. National regulations

#### Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) 1, slightly hazardous to water (Classification according to VwVwS, Annex 2; WGK No 733)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### Denmark

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F+ <Flam. Liq. 1>; Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 1	Flammable liquids, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H224	Extremely flammable liquid and vapour
H302	Harmful if swallowed
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
R12	Extremely flammable
R20/22	Harmful by inhalation and if swallowed
R36/37	Irritating to eyes and respiratory system
F+	Extremely flammable
Xi	Irritant
Xn	Harmful

# METHYL FORMATE FOR SYNTHESIS

## Safety Data Sheet

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