

MATERIAL SAFETY DATA SHEET

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: Methanol
Product code: M012, M013, M014, M092, M120, M174, M250, M442, M999, M473
Brand: LEONID
CAS-No.: 67-56-1
REACH No.: 01-2119433307-44-XXXX
Index No.: 603-001-00-X

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company: Leonid Chemicals Pvt. Ltd
Plot No. 30P2, KIADB Industrial Area
Dobaspet – 562111
Taluk – Nelamangala
District – Bangalore Rural
State – Karnataka
India

1.4 Emergency telephone number

Emergency phone number: +91 23377126 / 23378254

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225
Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 3), H311
Specific target organ toxicity - single exposure (Category 1), Eyes, H370
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapour.

H301 + H311 + H331

Toxic if swallowed, in contact with skin or if inhaled.

H370

Causes damage to organs (Eyes).

Precautionary statement(s)

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection

P301 + P310 + P330

IF SWALLOWED: Immediately call a POISON

CENTER/ doctor. Rinse mouth.

P302 + P352 + P312

IF ON SKIN: Wash with plenty of water. Call a POISON

CENTER/doctor if you feel unwell.

P304 + P340 + P311

IF INHALED: Remove person to fresh air and keep

comfortable for breathing. Call a POISON

CENTER/doctor

Supplemental Hazard Statements None

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. Composition/information on ingredients

3.1 Substances

Synonyms.: Methyl alcohol
Formula: CH₄O
Molecular weight: 32.04 g/mol
CAS-No.: 67-56-1
EC-No.: 200-659-6
Index-No.: 603-001-00-X

Component	Classification	Concentration
Methanol		
CAS-No.: 67-56-1	Flam. Liq. 2; Acute Tox. 3; STOT SE 1;	<= 100 %
EC-No.: 200-659-6	H225, H301, H331, H311, H370	
Index-No.: 603-001-00-X	Concentration limits: >= 10 %: STOT SE 1, H370; 3 - < 10 %: STOT SE 2, H371;	

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

After swallowing: fresh air. Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage). Call a doctor immediately (mention methanol ingestion). Only in exceptional cases, if no medical care is available within one hour, induce vomiting (only in fully conscious persons) and make victim drink ethanol again (approx. 0.3 ml of a 40% alcoholic beverage/kg body weight/hour).

Notes to physician

Dizziness Drowsiness metabolic acidosis Blurred vision Seizures. Coma Blindness death

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Foam Carbon dioxide (CO₂) Dry powder Water.

5.2 Special hazards arising from the substance or mixture

For this substance/mixture no limitations of extinguishing agents are given.

Carbon oxides

Combustible.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other section

For disposal see section 13.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage class (TRGS 510): Flammable liquids

7.3 Specific end uses

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Derived No Effect Level (DNEL)

Application Area	Exposure routes	Health effect	Value
Workers	Skin contact	Long-term systemic effects	40mg/kg BW/d
Consumers	Skin contact	Long-term systemic effects	8mg/kg BW/d
Consumers	Ingestion	Long-term systemic effects	8mg/kg BW/d
Workers	Skin contact	Acute systemic effects	40mg/kg BW/d
Consumers	Skin contact	Acute systemic effects	8mg/kg BW/d
Consumers	Ingestion	Acute systemic effects	8mg/kg BW/d
Workers	Inhalation	Acute systemic effects	260 mg/m3
Workers	Inhalation	Acute local effects	260 mg/m3
Workers	Inhalation	Long-term systemic effects	260 mg/m3
Workers	Inhalation	Long-term local effects	260 mg/m3
Consumers	Inhalation	Acute systemic effects	50 mg/m3
Consumers	Inhalation	Acute local effects	50 mg/m3
Consumers	Inhalation	Long-term systemic effects	50 mg/m3
Consumers	Inhalation	Long-term local effects	50 mg/m3

Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	23.5 mg/kg
Marine water	15.4 mg/l
Fresh water	154 mg/l
Fresh water sediment	570.4 mg/kg
Onsite sewage treatment plant	100 mg/kg

8.2 Exposure control

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Butyl rubber

Minimum layer thickness: 0.7 mm

Break through time: >480 min

Material tested: Butoject

Splash contact

Material: Viton

Minimum layer thickness: 0.7 mm

Break through time: >120 min

Material tested: Vitoject

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Colourless liquid
b) Odour	Characteristic
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point/range: -98°C.
f) Initial boiling point and boiling range	64.7°C
g) Flash point	9.70°C - closed cup - Tested according to Directive 92/69/EEC.
h) Evaporation rate	6.3 - Diethyl ether 1.9 - n-butyl acetate
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 44.0%(V) Lower explosion limit: 5.5%(V)
k) Vapour pressure	128 hPa at 20.0°C
l) Vapour density	1.11
m) Relative density	0.791 g/mL at 25°C
n) Water solubility	Completely miscible at 20°C soluble
o) Partition coefficient: n-octanol/water	log Pow: -0.77 - (Lit.), Bioaccumulation is not expected.
p) Auto-ignition temperature	455.0°C at 1,013 hPa - DIN 51794
q) Decomposition temperature	Distillable in an undecomposed state at normal pressure.
r) Viscosity	Viscosity, kinematic: 0,54 - 0,59 mm ² /s at 20°C Viscosity, dynamic: No data available
s) Explosive properties	No data available
t) Oxidizing properties	None

9.2 Other safety information

Minimum ignition energy	0.14 mJ
Conductivity	< 1 µS/cm

Relative vapour density

1.11

10. Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Risk of explosion with:

Oxidizing agents

Halogens

sodium hypochlorite

sulfuric acid

nitrogen oxides

chlorates

chromium(VI) oxide

chromosulfuric acid

halogen oxides

hydrides salts of oxyhalogenic acids

perchlorates

perchloric acid

permanganic acid

hydrogen peroxide

zinc diethyl

nonmetallic oxides

powdered magnesium

Nitric acid

Exothermic reaction with:

Acids

Chloroform

Acid anhydrides

Reducing agents

Bromine

Chlorine

tetrachloromethane

acid halides

magnesium

Risk of ignition or formation of inflammable gases or vapours with:

Fluorine Oxides of phosphorus

Raney-nickel

Generates dangerous gases or fumes in contact with:

Alkali metals

Alkaline earth metals

10.4 Conditions to avoid

Heat, flames and sparks

10.5 Incompatible materials

Magnesium, zinc alloys, various plastics, Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral – 100.1 mg/kg

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Symptoms: Nausea, Vomiting

Acute toxicity estimate Inhalation - 4 h - 3,1 mg/l

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Symptoms: Irritation symptoms in the respiratory tract.

Acute toxicity estimate Dermal - 300,1 mg/kg

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

Remarks: (ECHA) Drying-out effect resulting in rough and chapped skin.

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

Remarks: (ECHA)

Respiratory or skin sensitisation

Sensitisation test: - Guinea pig

Result: negative

(OECD Test Guideline 406)

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Micronucleus test

Species: Mouse

Cell type: Bone marrow

Application Route: Intraperitoneal injection

Method: OECD Test Guideline 474

Result: negative

Carcinogenicity

No data available.

Reproductive toxicity

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

Causes damage to organs. - Eyes, Central nervous system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: PC1400000

Acute effects: Headache, Dizziness, Drowsiness, narcosis, Blindness, Impairment of vision, irritant effects, Nausea, Vomiting, agitation, spasms, inebriation, Coma

Drying-out effect resulting in rough and chapped skin.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Systemic effects:

acidosis

drop in blood pressure

agitation,

spasms

inebriation

Dizziness

Drowsiness

Headache

Impairment of vision

Blindness

narcosis

Coma

Symptoms may be delayed.

Damage to:

Liver

Kidney

Cardiac

Irreversible damage of the optical nerve.

Other dangerous properties cannot be excluded.

This substance should be handled with particular care

12. Ecological information

12.1 Toxicity

Toxicity to fish

flow-through test LC50 - *Lepomis macrochirus* (Bluegill) –
15000.0 mg/l - 96 h
(US-EPA)

Toxicity to daphnia and
other aquatic invertebrates

Semi-static EC50 - *Daphnia magna* (Water flea) – 18.260 mg/l
- 96 h
(OECD Test Guideline 202)

Toxicity to algae

static test ErC50 - *Pseudokirchneriella subcapitata* (green
algae) – 22.000 mg/l - 96 h

(OECD Test Guideline 201)

Toxicity to bacteria static test IC50 - activated sludge - >1.000 mg/l - 3 h
(OECD Test Guideline 209)

12.2 Persistence and degradability

Biodegradability Result: 99 % - Readily biodegradable.
(OECD Test Guideline 301D)
Biochemical Oxygen Demand (BOD) 600 - 1.120 mg/g
Remarks: (IUCLID)
Chemical Oxygen Demand (COD) 1.420 mg/g
Remarks: (IUCLID)
Theoretical oxygen demand 1.500 mg/g
Remarks: (Lit.)
Ratio BOD/ThBOD 76 %
Remarks: Closed Bottle test (IUCLID)

12.3 Bioaccumulative potential

Bioaccumulation Cyprinus carpio (Carp) - 72 d at 20°C - 5 mg/l
(Methanol)
Bioconcentration factor (BCF): 1.0

12.4 Mobility in soil

Will not adsorb on soil.

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Additional ecological information Avoid release to the environment.

Stability in water at 19°C83 - 91 % - 72 h
Remarks: Hydrolyzes on contact with water.
Hydrolyzes readily.

13. Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging

Dispose of as unused product.

14. Transport information

14.1 UN number

ADR/RID: 1230

IMDG: 1230

IATA: 1230

14.2 UN proper shipping name

ADR/RID: METHANOL

IMDG: METHANOL

	IATA: Methanol	
14.3 Transport hazard class(es):		
ADR/RID: 3 (6.1)	IMDG: 3 (6.1)	IATA: 3 (6.1)
14.4 Packaging group		
ADR/RID: II	IMDG: II	IATA: II
14.5 Environmental hazards		
ADR/RID: no	IMDG Marine pollutant: no	IATA: no
14.6 Special precautions for user		
No data available		

15. Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

REACH - Restrictions on the manufacture, : Methanol
placing on the market and use of certain
dangerous substances, preparations and articles
(Annex XVII)

National legislation

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

: FLAMMABLE LIQUIDS

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapor.
H301	Toxic if swallowed.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs (/\$/*_ORGAN_SINGLE\$/).
H371	May cause damage to organs.

Further information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Leonid Chemicals Pvt. Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Leonid Chemicals Pvt. Ltd. has been advised of the possibility of such damages.