

Chemical Safety Data Sheet MSDS / SDS

Methylithium

Revision Date:2026-03-21 Revision Number:1

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

Product identifier

Product name : Methylithium
CBnumber : CB7234211
CAS : 917-54-4
EINECS Number : 213-026-4
Synonyms : MELI;METHYLLITHIUM

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P223 Keep away from any possible contact with water, because of violent reaction and possible flash fire.
P231+P232 Handle under inert gas. Protect from moisture.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P370+P378 In case of fire: Use ... for extinction.
P422 Store contents under ...
P222 Do not allow contact with air.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continuerinsing.

P309 IF exposed or if you feel unwell:

P310 Immediately call a POISON CENTER or doctor/physician.

P402+P404 Store in a dry place. Store in a closed container.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P405 Store locked up.

Hazard statements

H252 Self-heating in large quantities; may catch fire

H303 May be harmful if swallowed

H315 Causes skin irritation

H318 Causes serious eye damage

H401 Toxic to aquatic life

H225 Highly Flammable liquid and vapour

H260 In contact with water releases flammable gases which may ignite spontaneously

H304 May be fatal if swallowed and enters airways

H314 Causes severe skin burns and eye damage

H335 May cause respiratory irritation

H411 Toxic to aquatic life with long lasting effects

H250 Catches fire spontaneously if exposed to air

H302 Harmful if swallowed

H336 May cause drowsiness or dizziness

H311 Toxic in contact with skin

SECTION 3: Composition/information on ingredients

Substance

Product name	: Methyllithium
Synonyms	: MELI;METHYLLITHIUM
CAS	: 917-54-4
EC number	: 213-026-4
MF	: CH ₃ Li
MW	: 21.98

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Pulmonary failure possible after aspiration of vomit. Call a physician immediately. Do not attempt to neutralise.

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) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

4.4 Notes to physician

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

Water Foam

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Lithium oxides

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

May not get in touch with: Water

Development of hazardous combustion gases or vapours possible in the event of fire.

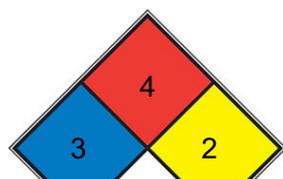
Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

NFPA 704





<input checked="" type="checkbox"/>	HEALTH	3	Short exposure could cause serious temporary or moderate residual injury (e.g. liquid hydrogen , sulfuric acid , calcium hypochlorite , hexafluorosilicic acid)
<input checked="" type="checkbox"/>	FIRE	4	Will rapidly or completely vaporize at normal atmospheric pressure and temperature, or is readily dispersed in air and will burn readily. Includes pyrophoric substances. Flash point below room temperature at 22.8 °C (73 °F). (e.g. acetylene, propane, hydrogen gas)
<input checked="" type="checkbox"/>	REACT	2	Undergoes violent chemical change at elevated temperatures and pressures, reacts violently with water, or may form explosive mixtures with water (e.g. white phosphorus, potassium , sodium)
<input type="checkbox"/>	SPEC. HAZ.	W	

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g.

Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Keep workplace dry. Do not allow product to come into contact with water.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Never allow product to get in contact with water during storage.

Storage stability

Recommended storage temperature 2 - 8 °C

Test for peroxide formation periodically and before distillation.

Storage class

Storage class (TRGS 510): 4.3: Hazardous materials, which set free flammable gases upon contact with water

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

<p>['Component', 'CAS-No.', 'Value', 'Control parameters', 'Basis']</p>	<p>['cumene', '98-82-8', 'TWA', '5 ppm', 'USA. ACGIH Threshold Limit Values (TLV)']</p>	<p>['Remarks', 'Confirmed animal carcinogen with unknown relevance to humans', 'None, None']</p>	<p>['TWA', '50 ppm245 mg/m3', 'USA. NIOSH Recommended Exposure Limits']</p>	<p>['Potential for dermal absorption', 'None, None']</p>	<p>['TWA', '50 ppm245 mg/m3', 'USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants']</p>	<p>['Skin designation', 'None, None']</p>	<p>['PEL', '50 ppm245 mg/m3', 'California permissible exposure limits for chemical contaminants (Title 8, Article 107)']</p>
<p>['TWA', '50 ppm245 mg/m3', 'USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)']</p>	<p>['Skin notation', 'None, None']</p>						

Skin

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

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

Skin protection

required

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

a) Physical state	liquid
b) Color	Colorless to yellow
c) Odor	No data available
d) Melting point/freezing point	No data available
e) Initial boiling point and boiling range	88 °C
f) Flammability (solid, gas)	No data available
g) Upper/lower flammability or explosive limits	1.7-36% (v/v) Information refers to the main component.)
h) Flash point	-7 °C
i) Autoignition temperature	The substance or mixture is not classified as pyrophoric.
j) Decomposition temperature	No data available
k) pH	No data available
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	Reacts with water.
n) Partition coefficient n-octanol/water	No data available
o) Vapor pressure	No data available
p) Density	0.86 g/cm ³
Relative density	0.85 g/mL at 20 °C
q) Relative vapor density	3 (vs air)
r) Particle characteristics	No data available
s) Explosive properties	Not classified as explosive.
t) Oxidizing properties	none

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Chemical stability

sensitive to moisture

10.2 Possibility of hazardous reactions

No data available

10.3 Conditions to avoid

Warming.

Moisture.

10.4 Incompatible materials

Oxidizing agents, Oxygen, Alcohols, Acids

10.5 Hazardous decomposition products

Peroxides

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture Acute toxicity

Oral: No data available

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:., damage of respiratory tract

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Remarks: Mixture causes burns.

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.

Risk of blindness!

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

Germ cell mutagenicity

Classified based on available data. For more details, see section 2

Carcinogenicity

Possible carcinogen.

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

Mixture may cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

Aspiration hazard

Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

11.2 Additional Information

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Components cumene

Acute toxicity

Oral: No data available

Symptoms: gastric pain, Vomiting

Symptoms: mucosal irritations, Cough, Shortness of breath, Headache, Nausea,

Vomiting, Possible damages:, damage of respiratory tract

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation (OECD Test Guideline 404)

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

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 72 h (OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative (OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster ovary cells

Result: negative

Test Type: Ames test

Test system: *S. typhimurium*

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Result: negative

Test Type: unscheduled DNA synthesis assay

Test system: rat hepatocytes

Result: negative

Method: OECD Test Guideline 474

Species: Mouse - male and female - Red blood cells (erythrocytes)

Result: negative

Method: OECD Test Guideline 474

Species: Rat - male - Bone marrow

Result: Positive results were obtained in some in vivo tests.

Carcinogenicity

Presumed to have carcinogenic potential for humans

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation. - Respiratory Tract

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

Acute oral toxicity - gastric pain, Vomiting

Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath,

Headache, Nausea, Vomiting, Possible damages:, damage of respiratory tract

Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

Aspiration hazard

Aspiration may cause pulmonary edema and pneumonitis.

2-Methyltetrahydrofuran Acute toxicity

LD50 Oral - Rat - female - > 300 - 2,000 mg/kg (OECD Test Guideline 420)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., Risk of aspiration upon vomiting.,

Aspiration may cause pulmonary edema and pneumonitis.

Symptoms: Possible damages:, mucosal irritations

LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation

Skin - In vitro study

Result: irritating - 15 min (OECD Test Guideline 439)

Serious eye damage/eye irritation

Eyes - In vitro study

Result: Corrosive - 10 min (OECD Test Guideline 437)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Mouse lymphoma test

Result: negative

Carcinogenicity

Classified based on available data. For more details, see section 2

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

Acute oral toxicity - Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., Risk of aspiration upon vomiting., Aspiration may cause pulmonary edema and pneumonitis.

Acute inhalation toxicity - Possible damages:., mucosal irritations

Specific target organ toxicity - repeated exposure Aspiration hazard

Classified based on available data. For more details, see section 2

methyllithium Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Classified based on available data. For more details, see section 2

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

Germ cell mutagenicity

Classified based on available data. For more details, see section 2

Carcinogenicity

Classified based on available data. For more details, see section 2

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2

Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

Aspiration hazard

Classified based on available data. For more details, see section 2

SECTION 12: Ecological information

12.1 Toxicity

Mixture

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

Components cumene

Toxicity to fish flow-through test LC50 - *Cyprinodon variegatus* (sheepshead minnow) - 4.7 mg/l - 96 h (US-EPA)

Toxicity to daphnia static test EC50 - *Daphnia magna* (Water flea) - 2.14 mg/l - 48 and other aquatic invertebrates (OECD Test Guideline 202)

Toxicity to algae static test ErC50 - *Desmodesmus subspicatus* (green algae) - 2.01 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria static test EC50 - activated sludge - > 2,000 mg/l - 3 h (OECD Test Guideline 209)

Toxicity to daphnia semi-static test NOEC - *Daphnia magna* (Water flea) - 0.35 and other aquatic mg/l - 21 d invertebrates(Chronic (OECD Test Guideline 211) toxicity)

2-Methyltetrahydrofuran

Toxicity to fish semi-static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - > 100 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia semi-static test EC50 - *Daphnia magna* (Water flea) - > 139 and other aquatic mg/l - 48 h invertebrates (OECD Test Guideline 202)

Toxicity to algae static test ErC50 - *Desmodesmus subspicatus* (green algae) - > 104 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria static test EC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)

Toxicity to daphnia semi-static test NOEC - *Daphnia magna* (Water flea) - >= 120 and other aquatic mg/l - 21 d invertebrates(Chronic (OECD Test Guideline 211) toxicity)

methyllithium

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 3399

IMDG: 3399

IATA-DGR: 3399

14.2 UN proper shipping name

ADR/RID: ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (methyllithium, 2-Methyltetrahydrofuran, cumene)

IMDG: ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (methyllithium, 2-Methyltetrahydrofuran, cumene)

IATA-DGR: Organometallic substance, liquid, water-reactive, flammable (methyllithium, 2-Methyltetrahydrofuran, cumene)

Passenger Aircraft: Not permitted for transport

14.3 Transport hazard class(es)

ADR/RID: 4.3 (3)

IMDG: 4.3 (3)

IATA-DGR: 4.3 (3)

14.4 Packaging group

ADR/RID: I

IMDG: I

IATA-DGR: I

14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA-DGR: no

14.6 Special precautions for user

Based on chemical properties, choose appropriate tools and conditions of transport.

Transporting tools shall be equipped with appropriate and sufficient firefighting equipment and emergency leaking installations. If transporting by road, please go along the specified route.

14.7 Incompatible materials

Oxidizing agents, Oxygen, Alcohols, Acids

SECTION 15: Regulatory information

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

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : Listed

Other regulations

Please pay attention on the waste treatment should also comply with local regulations requirement.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.