

# LITHIUM TETRABORATE, LITHIUM METABORATE, LITHIUM IODIDE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 10/3/2024 Version: 1.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : LITHIUM TETRABORATE, LITHIUM METABORATE, LITHIUM IODIDE  
Product code : ARF10021, ARF10047, ARF10025, ARF10026, ARF10033, ARF10037, ARF10041, ARF10044

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemicals

#### 1.3. Supplier

Alpha Resources LLC  
3090 Johnson Rd.  
Stevensville, Michigan 49127  
USA  
T (269)465-5559  
[info@alpharesources.com](mailto:info@alpharesources.com) - [www.alpharesources.com](http://www.alpharesources.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC Emergency Phone Number: (800) 424-9300

### SECTION 2: Hazard(s) identification

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

##### GHS US classification

Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child
Full text of H statements : see section 16		

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H302 - Harmful if swallowed  
H318 - Causes serious eye damage  
H361 - Suspected of damaging fertility or the unborn child

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P310 - Immediately call a poison center or doctor.  
P330 - Rinse mouth.  
P405 - Store locked up.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
LITHIUM TETRABORATE	CAS-No.: 12007-60-2	32 – 67	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Repr. 2, H361
LITHIUM METABORATE	CAS-No.: 13453-69-5	32 – 65	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Repr. 2, H361
LITHIUM IODIDE	CAS-No.: 10377-51-2	0.5 – 1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after eye contact	: Serious damage to eyes.
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### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
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### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

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

Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.  
Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### LITHIUM TETRABORATE, LITHIUM METABORATE, LITHIUM IODIDE

No additional information available

##### LITHIUM IODIDE (10377-51-2)

No additional information available

##### LITHIUM METABORATE (13453-69-5)

No additional information available

##### LITHIUM TETRABORATE (12007-60-2)

No additional information available

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

##### Hand protection:

Protective gloves

##### Eye protection:

Safety glasses

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### Skin and body protection:

Wear suitable protective clothing

### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Powder.
Color	: white
Odor	: Mixture contains one or more component(s) which have the following odour:
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

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### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

LITHIUM TETRABORATE, LITHIUM METABORATE, LITHIUM IODIDE	
ATE US (oral)	374.065 mg/kg body weight

LITHIUM IODIDE (10377-51-2)	
LD50 oral rat	> 300 – < 2000
ATE US (oral)	300 mg/kg body weight

LITHIUM METABORATE (13453-69-5)	
LD50 oral rat	500 mg/kg
ATE US (oral)	500 mg/kg body weight

LITHIUM TETRABORATE (12007-60-2)	
LD50 oral rat	500 mg/kg
LD50 dermal rat	> 2000 mg/kg
ATE US (oral)	500 mg/kg body weight

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Causes serious eye damage.  
Respiratory or skin sensitization : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Suspected of damaging fertility or the unborn child.  
STOT-single exposure : Not classified  
STOT-repeated exposure : Not classified  
Aspiration hazard : Not classified  
Viscosity, kinematic : Not applicable

LITHIUM IODIDE (10377-51-2)	
Viscosity, kinematic	Not applicable

LITHIUM METABORATE (13453-69-5)	
Viscosity, kinematic	Not applicable

LITHIUM TETRABORATE (12007-60-2)	
Viscosity, kinematic	Not applicable

Symptoms/effects after eye contact : Serious damage to eyes.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

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LITHIUM IODIDE (10377-51-2)	
EC50 - Other aquatic organisms [1]	0.42 mg/l Daphnia magna (Water flea)

LITHIUM METABORATE (13453-69-5)	
EC50 - Other aquatic organisms [1]	100 g/l Daphnia magna (Water flea)
ErC50 algae	100 mg/l
NOEC chronic algae	32 mg/l

LITHIUM TETRABORATE (12007-60-2)	
EC50 - Other aquatic organisms [1]	> 100 mg/l Daphnia magna (Water flea)

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable  
Proper Shipping Name (TDG) : Not applicable  
Proper Shipping Name (IMDG) : Not applicable  
Proper Shipping Name (IATA) : Not applicable

### 14.3. Transport hazard class(es)

#### DOT

Transport hazard class(es) (DOT) : Not applicable

#### TDG

Transport hazard class(es) (TDG) : Not applicable

#### IMDG

Transport hazard class(es) (IMDG) : Not applicable

#### IATA

Transport hazard class(es) (IATA) : Not applicable

### 14.4. Packing group

Packing group (DOT) : Not applicable  
Packing group (TDG) : Not applicable  
Packing group (IMDG) : Not applicable

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Packing group (IATA) : Not applicable

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

#### DOT

No data available

#### TDG

No data available

#### IMDG

No data available

#### IATA

No data available

### 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. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
LITHIUM IODIDE	10377-51-2	Present	Active	
LITHIUM METABORATE	13453-69-5	Present	Active	
LITHIUM TETRABORATE	12007-60-2	Present	Active	

### 15.2. International regulations

#### CANADA

##### LITHIUM IODIDE (10377-51-2)

Listed on the Canadian DSL (Domestic Substances List)

##### LITHIUM METABORATE (13453-69-5)

Listed on the Canadian DSL (Domestic Substances List)

##### LITHIUM TETRABORATE (12007-60-2)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

##### LITHIUM TETRABORATE (12007-60-2)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

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Full text of H-phrases	
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H361	Suspected of damaging fertility or the unborn child
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA

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.