

ALADDIN SCIENTIFIC CORPORATION  
14078 Meridian Parkway, Riverside, CA. 92518

# SAFETY DATA SHEET

Version: v1  
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Lithium manganese(III,IV) oxide  
Product Number : L476335  
Brand : aladdin  
CAS-No. : 12057-17-9

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

Identified uses : Laboratory chemicals, Manufacture of substances.

### 1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION  
Address : 14078 Meridian Parkway,  
Riverside, CA. 92518  
Telephone : +1 (833) 552-7181  
Fax : no data available

### 1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300  
CHEMTREC®, Outside the USA :

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

### 2.2 GHS Label elements, including precautionary statements

Pictogram : no data available  
Signal word : no data available  
Hazard statement(s)  
Precautionary statement(s)

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : LMO ; Lithium Manganate

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Formula	: LiMn2O4
Molecular weight	: 180.81
CAS No.	: 12057-17-9
EC-NO.	: no data available

Component	Classification	Concentration
Lithium manganese(III,IV) oxide	no data available	electrochemical grade

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

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

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

### 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

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

no data available

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

Lithium oxides, Manganese/manganese oxides

### 5.3 Advice for firefighters

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Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

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### SECTION 6: Accidental release measures

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

Avoid dust formation. Avoid breathing vapours, mist or gas. For personal protection see section 8.

#### 6.2 Environmental precautions

No special environmental precautions required.

#### 6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

#### 6.4 Reference to other sections

For disposal see section 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

#### 7.3 Specific end use(s)

no data available

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

#### 8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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 EN166(EU).

Skin protection

Gloves must be checked before use. Please use proper methods to remove the gloves (do not touch the outer

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surface of the gloves), and avoid any skin parts contacting the product. After use, please handle the contaminated gloves carefully according to relevant laws and regulations and effective laboratory rules and procedures. Please clean and blow dry the protective gloves selected for your hands must meet the specifications given in regulation (EU) 2016 / 425 and the en 374 standard derived from it.

#### 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 ABEK (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.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	form: powder color: black
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	> 400 °C-lit.
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

### 9.2 Other safety information

no data available

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## SECTION 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

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Lithium oxides, Manganese/manganese oxides

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

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no data available

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## SECTION 12: Ecological information

### 12.1 Toxicity

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

no data available

### 12.6 Other adverse effects

no data available

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## SECTION 13:

### 13.1 Disposal considerations

Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur.

Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

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## SECTION 14: Transport information

DOT (US)

UN number: no data available

Packing group: no data available

Class: no data available

Proper shipping name: no data available

Reportable Quantity(RQ): no data available

Poison Inhalation Hazard: no data available

Environmental Hazards: no

IMDG

UN number: no data available

Packing group: no data available

EMS-No: no data available

Proper shipping name: no data available

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IATA

UN number: no data available

Packing group: no data available

Class: no data available

Proper shipping name: no data available

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## SECTION 15: Regulatory information

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

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## SECTION 16: Other information

<b>Prepared By</b>	Regulatory Affairs ALADDIN SCIENTIFIC CORPORATION Email: QualityAssurance@aladdinsci.com
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