

Safety Data Sheet per OSHA HazCom 2012

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1 Identification

Product identifier

Product name: Lithium arsenate

Stock number: 39350 CAS Number: 13478-14-3 **EC** number: 236-773-8 Index number:

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

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: Alfa Aesar

Alla Aesai Thermo Fisher Scientific Chemicals, Inc. 30 Bond Street Ward Hill, MA 01835-8099 Tel: 800-343-0660 Fax: 800-322-4757

Email: tech@alfa.com www.alfa.com

Information Department: Health, Safety and Environmental Department Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed. Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Carc. 1A H350 May cause cancer. **Hazards not otherwise classified** No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms



GHS06 GHS08

Signal word Danger
Hazard statements
H301+H331 Toxic if swallowed or if inhaled.
H350 May cause cancer.
Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P281 Use personal protective equipment as required.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P405 Store locked up.
Dispace of contents/cents/services.

Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification
D1A - Very toxic material causing immediate and serious toxic effects
D2A - Very toxic material causing other toxic effects



Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System)



Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances CAS# Description: 13478-14-3 Lithium arsenate Identification number(s): EC number: 236-773-8 Index number: 033-005-00-1

Product name: Lithium arsenate

(Contd. of page 1)

4 First-aid measures

Description of first aid measures General information

Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing Do not induce vomiting; immediately call for medical help.
Information for doctor
Most important symptoms and effects, both acute and delayed No further relevant information average.

Most important symptoms and effects, both acute and delayed No further relevant information available. Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Toxic metal oxide fume
Advice for firefighters
Protective equipment:

Protective equipment:
Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:
Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Ensure adequate venuiation.

Prevention of secondary hazards: No special measures required.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling Precautions for safe handling

Reep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Open and handle container with care.

Information about protection against explosions and fires: No information known.

Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and receptacles: No special requirements.

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Information about storage in one common storage facility: Store away from oxidizing agents. Further information about storage conditions:

Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters Components with limit values that require monitoring at the workplace:

Arsenic, elemental, and inorganic compounds (except arsine), as As

0.01; Carcinogen 0.2

mg/m3 ACGIH TLV 0 Belgium TWA Denmark TWA Finland

0.2 0.05 Carcinogen 0.2 0.5; Carcinogen 0.1; Carcinogen 0.01; Carcinogen (A 0.05; 0.1-STEL Finland C.
France VME
Hungary TWA
Ireland TWA
Korea TLV
Netherlands TWA
Norway TWA
Poland TWA
Sweden NGV
Switzerland TWA
United Kingdom TI

0.02

Sweden NGV 0.03; Carcinogen Switzerland TWA 0.1; Carcinogen United Kingdom TWA 0.1; Carcinogen USA PEL 0.5 Additional information

Additional information: No data

Exposure controls

Personal protective equipment
General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.

(Contd. on page 3)

(Contd. of page 2)

Product name: Lithium arsenate

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.
Store protective clothing separately.
Maintain an ergonomically appropriate working environment.

Breathing equipment:
Refer to 29CFR1910.1018 for regulations on respiratory protection required during exposure to inorganic arsenic.
Use self-contained respiratory protective device in emergency situations.

Protection of hands:

Impervious gloves
Check protection of names
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses
Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance: Form:

Odor:

Odor threshold:

pH-value:

Change in condition

Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start:

Flash point: Flammability (solid, gaseous) Ignition temperature: Decomposition temperature:

Auto igniting:

Danger of explosion: Explosion limits: Lower: Upper:

Vapor pressure: Density at 20 °C (68 °F): Relative density

Vapor density Evaporation rate Solubility in / Miscibility with

Water Partition coefficient (n-octanol/water): Not determined. Viscosity:

dynamic: kinematic: Other information

Product does not present an explosion hazard. Not determined Not determined

Powder

Not determined

Not determined

Not applicable.

Not determined Not determined Not determined

Not applicable Not determined

Not determined Not determined

Not determined.

Not applicable. 3.07 g/cm³ (25.619 lbs/gal) Not determined.

Not applicable.

Insoluble Not applicable.

Not applicable.

Not applicable. No further relevant information available.

10 Stability and reactivity

Reactivity No information known.

Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.

Conditions to avoid No further relevant information available.

Incompatible materials: Oxidizing agents

Hazardous decomposition products: Toxic metal oxide fume

11 Toxicological information

Information on toxicological effects

Acute toxicity: Toxic if inhaled. Toxic if swallowed.

LD/LC50 values that are relevant for classification: No data

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: No effects known.

Carcinogenicity: No enects known.

Carcinogenicity:
May cause cancer.

EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer.

IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.

ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans.

ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans. Carcinogen as defined by OSHA.

NTP-K: Known to be carcinogenic: sufficient evidence from human studies.

Reproductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: No effects known.

Specific target organ system toxicity - single exposure: No effects known.

Subacute to chronic toxicity:

Large amounts of lithium compounds may cause vomiting, diarrhea, ataxia, intestinal irritation, kidney injury, central nervous system depression and a drop in blood pressure. Central nervous system effects may include slurred speech, blurred vision, dizziness, sensory loss, convulsions and stupor. Chronic intake may cause neuromuscular effects such as tremor, ataxia, weakness, clonus and hyperactive reflexes. Lithium can cause kidney damage, gastrointestinal disturbances, fatigue, dehydration, weight loss, dermatological effects and thyroid damage. Lithium ion has shown teratogenic effects in rats and mice.

Acute arsenic poisoning from ingestion results in marked irritation of the stomach and intestines with nausea, vomiting and diarrhea. In severe cases, the vomitus and stools are bloody and the patient goes into collapse and shock with weak, rapid pulse, cold sweats, coma and death.

Chronic arsenic poisoning may cause disturbances of the digestive system such as loss of appetite, cramps, nausea, constipation or diarrhea.

Subacute to chronic toxicity: No effects known.

(Contd. on page 4)

Product name: Lithium arsenate

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

(Contd. of page 3)

12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Ecotoxical effects:
Remark: Very toxic for aquatic organisms
Additional ecological information:
General notes:

Additional ecological information:
General notes:
Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Very toxic for aquatic organisms
Results of PBT and vPvB assessment
PRT: Not applicable

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14	Trans	sport	info	rmat	tion
	I IAI AI	umbai			

Olv-Ivallibel						
DOT,	IMDG,	IATA				

UN proper shipping name DOT

IMDG, IATA

Arsenic compounds, solid, n.o.s. (Lithium arsenate) ARSENIC COMPOUND, SOLID, N.O.S. (Lithium arsenate)

Transport hazard class(es)

DOT



Class Label

Class

Label

IMDG, IATA

Class Label

Packing group DOT, IMDG, IATA

Environmental hazards: Special precautions for user

UN1557

6.1 Toxic substances. 6.1

6.1 Toxic substances.

6.1 (T5) Toxic substances 6.1

Environmentally hazardous substance, solid Warning: Toxic substances

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

Marine Pollutant (DOT):

No

UN "Model Regulation":

UN1557, Arsenic compounds, solid, n.o.s. (Lithium arsenate), 6.1, II

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms





GHS06 GHS08

Signal word Danger

Signal word Danger
Hazard statements
H301+H331 Toxic if swallowed or if inhaled.
H350 May cause cancer.
Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P281 Use personal protective equipment as required.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P405 Store locked up.
Dispose of contents/container in accordance with local/regional/national/interr Dispose of contents/container in accordance with local/regional/national/international regulations.

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Product name: Lithium arsenate

National regulations

(Contd. of page 4)

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory. This product contains a chemical known to the state of California to cause cancer and/or reproductive toxicity.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

SARA Section 313 (specific toxic chemical listings)

13478-14-3 Lithium arsenate

California Proposition 65 Prop 65 - Chemicals known to cause cancer

13478-14-3 Lithium arsenate

Prop 65 - Developmental toxicity Substance is not listed.
Prop 65 - Developmental toxicity, female Substance is not listed.
Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use:

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases. For use only by technically qualified individuals. This product contains arsenic and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations Refer to 29CFR1910.1018 for regulations concerning inorganic arsenic.
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department
Date of preparation / last revision 11/24/2015 / Abbreviations and acronyms:

RID: Réglement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO: International Civil Aviation Organization
ICAO: The concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Martine Code for Dangerous Goods
DOT: US Department of Transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal doose, 50 percent
LD50: Lethal concentration, 50 percent
LD50: Lethal concentration, 50 percent
LD50: Lethal doose, 50 percent
VPWB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
MFP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)

USA