

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/14/2010

Reviewed on 05/14/2010

1 Identification of substance:**Product details:****Product name:** Lead(II) arsenate**Stock number:** A19927**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company
 Johnson Matthey Catalog Company, Inc.
 30 Bond Street
 Ward Hill, MA 01835-8099
 Emergency Phone: (978) 521-6300
 CHEMTREC: (800) 424-9300
 Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department**Emergency information:**

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:**Chemical characterization:****Description: (CAS#)**

Lead(II) arsenate (CAS# 3687-31-8)

Identification number(s):**EINECS Number:** 222-979-5**Index number:** 033-005-00-1**3 Hazards identification****Hazard description:**

T Toxic

N Dangerous for the environment

Information pertaining to particular dangers for man and environment

R 45 May cause cancer.

R 61 May cause harm to the unborn child

R 62 Possible risk of impaired fertility

R 23/25 Also toxic by inhalation and if swallowed.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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

HEALTH	3
FIRE	0
REACTIVITY	1

Health (acute effects) = 3

Flammability = 0

Reactivity = 1

GHS label elements**Danger**

3.1/3 - Toxic if swallowed.

3.1/3 - Toxic if inhaled.

**Danger**

3.6/1A - May cause cancer.

3.7/1A - May damage fertility or the unborn child.

**Warning**

4.1/1 - Very toxic to aquatic life.

4.1/1 - Very toxic to aquatic life with long lasting effects.

Prevention:

Avoid release to the environment.

Obtain special instructions before use.

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Response:

IF exposed or concerned: Get medical advice/attention.

Disposal:

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

4 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.

Seek immediate medical advice.

5 Fire fighting measures**Suitable extinguishing agents**

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Lead oxide fume

Arsenic oxides (AS₂O_x)**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Measures for environmental protection:

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

Measures for cleaning/collecting:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Additional information:

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****Information for safe handling:**

Keep 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: The product is not flammable**Storage****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Do not store together with acids.**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

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8 Exposure controls and 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.

Components with limit values that require monitoring at the workplace:

Arsenic, elemental, and inorganic compounds (except arsine), as As
mg/m³

ACGIH TLV	0.01; Carcinogen
Belgium TWA	0.2
Denmark TWA	0.05
Finland	Carcinogen
France VME	0.2
Hungary TWA	0.5; Carcinogen
Ireland TWA	0.1; Carcinogen
Korea TLV	0.01; Carcinogen
Netherlands TWA	0.05; 0.1-STEL
Norway TWA	0.02
Poland TWA	0.1
Sweden NGV	0.03; Carcinogen
Switzerland TWA	0.1; Carcinogen
United Kingdom TWA	0.1; Carcinogen
USA PEL	0.5

Lead, elemental, and inorganic compounds (as Pb)
mg(Pb)/m³

ACGIH TLV	0.05 Confirmed animal carcinogen
Austria MAK	0.1
Belgium TWA	0.15
Denmark TWA	0.1
Germany MAK	0.1
Japan OEL	0.1
Netherlands TWA	0.15
Norway TWA	0.05
Poland TWA	0.05
Switzerland MAK-W	0.1
United Kingdom TWA	0.1
Finland TWA	0.1
France TWA	0.15
Hungary STEL	0.04
Sweden TWA	0.1 (total dust) 0.05 (resp. dust)
USA PEL	0.05

Additional information: No data

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.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Refer to 29CFR1910.1018 for regulations on respiratory protection required during exposure to inorganic arsenic.

Refer to 29CFR1910.1025 for regulations on respiratory protection required during exposure to lead and lead compounds.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

Material of gloves

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:

General Information

Form: Powder

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Product name: Lead(II) arsenate

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Color:	White
Odor:	Odorless
Change in condition	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Flash point:	Not applicable
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Density at 20°C (68°F):	5.8 g/cm ³
Solubility in / Miscibility with	
Water:	Insoluble

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided: Acids

Dangerous reactions No dangerous reactions known

Dangerous products of decomposition:

Lead oxide fume

Arsenic oxides (As₂O_x)

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral	LD50	825 mg/kg (rat)
		125 mg/kg (rabbit)

Primary irritant effect:

on the skin: May cause irritation

on the eye: May cause irritation

Sensitization: No sensitizing effects known.

Subacute to chronic toxicity:

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.

Lead and lead compounds may cause abdominal pain, diarrhea, loss of appetite, metallic taste, nausea, vomiting, lassitude, insomnia, muscle weakness, joint and muscle pain, irritability, headache and dizziness. Red blood cells may be damaged resulting in anemia. Gastritis and injury to the kidneys, liver, male gonads, and central nervous system may also occur.

Subacute to chronic toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:

Related to Chronic Data - death.

Peripheral Nerve and Sensation - spastic paralysis with or without sensory change.

Behavioral - convulsions or effect on seizure threshold.

Nutritional and Gross Metabolic - weight loss or decreased weight gain.

Additional toxicological information:

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

May cause harm to the unborn child.

Possible risk of impaired fertility.

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.

NTP-1: Known to be carcinogenic: sufficient evidence from human studies.

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Carcinogen as defined by OSHA.

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

12 Ecological information:**Ecotoxicological effects:****Remark:** Very toxic for aquatic organisms**Additional ecological information:****General notes:**

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.

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

Very toxic for aquatic organisms

13 Disposal considerations**Product:****Recommendation** Consult state, local or national regulations to ensure proper disposal.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.**14 Transport information****DOT regulations:****Hazard class:**

6.1

Identification number:

UN1617

Packing group:

II

Proper shipping name (technical name): LEAD ARSENATES**Label**

6.1

Remarks:

Special marking with the symbol (fish and tree).

Land transport ADR/RID (cross-border)**ADR/RID class:**

6.1 (T5) Toxic substances

Danger code (Kemler):

60

UN-Number:

1617

Packaging group:

II

Special marking:

Symbol (fish and tree)

Description of goods:

1617 LEAD ARSENATES

Maritime transport IMDG:**IMDG Class:**

6.1

UN Number:

1617

Label

6.1

Packaging group:

II

Marine pollutant:

Yes (P)

Symbol (fish and tree)

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Proper shipping name: LEAD ARSENATES

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 6.1
 UN/ID Number: 1617
 Label: 6.1
 Packaging group: II
 Proper shipping name: LEAD ARSENATES

UN "Model Regulation": UN1617, LEAD ARSENATES, 6.1, II

Environmental hazards: Environmentally hazardous substance, solid; Marine Pollutant

15 Regulations

Product related hazard informations:

Hazard symbols:

T Toxic
 N Dangerous for the environment

Risk phrases:

45 May cause cancer.
 61 May cause harm to the unborn child
 62 Possible risk of impaired fertility
 23/25 Also toxic by inhalation and if swallowed.
 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety phrases:

53 Avoid exposure - obtain special instructions before use.
 45 In case of accident or if you feel unwell, seek medical advice immediately.
 60 This material and its container must be disposed of as hazardous waste.
 61 Avoid release to the environment. Refer to special instructions/Safety data sheets

National regulations

This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only.

This product contains a chemical known to the state of California to cause cancer or reproductive toxicity.

Some or all of the components of this product are not listed on the Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL).

Information about limitation of use:

For use only by technically qualified individuals.
 This product contains lead and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.
 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.
 Refer to 29CFR1910.1025 for regulations concerning lead and lead compounds.

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.

Department issuing MSDS: Health, Safety and Environmental Department.

Contact: Zachariah Holt

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association

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IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

P: Marine Pollutant

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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