

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 02/04/2010

Reviewed on 02/03/2010

1 Identification of substance:**Product details:****Product name:** Ammonium dihydrogen arsenate**Stock number:** 31493**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#)

Ammonium dihydrogen arsenate (CAS# 13462-93-6)

Identification number(s):**EINECS Number:** 236-667-1**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 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.

**Warning**

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

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

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Avoid release to the environment.
Use personal protective equipment as required.

Response:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER or doctor/physician.
Specific treatment (see on this label).
Rinse mouth.
Collect spillage.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

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.
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

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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

In case of fire, the following can be released:

Ammonia

Nitrogen oxides (NOx)

Toxic metal oxide fume

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.

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.

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Information about protection against explosions and fires: No special measures required.

Storage

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

Information about storage in one common storage facility: No information known.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

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; Confirmed human carcinogen
Belgium TWA	0.2
Denmark TWA	0.05
Finland TWA	Carcinogen
France VME	0.2
Hungary	0.5-STEEL; Carcinogen
Korea TWA	0.01; Confirmed human carcinogen
Norway	0.02
Poland TWA	0.01
Sweden NGV	0.03; Carcinogen
Switzerland TWA	0.1; Carcinogen
United Kingdom TWA	0.1; Carcinogen
USA PEL	0.01

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.

Protection of hands: Impervious gloves**Eye protection:** Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties:****General Information**

Form:	Crystalline
Color:	White
Odor:	Not determined

Change in condition

Melting point/Melting range:	300°C (572°F) ((dec))
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

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Density at 20°C (68°F): 2.311 g/cm³Solubility in / Miscibility with
Water at 0°C (32°F): 337.4 g/l

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: None known.**Dangerous reactions** No dangerous reactions known**Dangerous products of decomposition:**

Ammonia

Nitrogen oxides (NOx)

Toxic metal oxide fume

11 Toxicological information

Acute toxicity:**Primary irritant effect:****on the skin:** Irritant to skin and mucous membranes.**on the eye:** Irritating effect.**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.

Additional toxicological information:

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

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.

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 fish**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.

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14 Transport information

DOT regulations:



Hazard class: 6.1
Identification number: UN1557
Packing group: II
Proper shipping name (technical name): ARSENIC COMPOUND, SOLID, N.O.S.
Label: 6.1

Land transport ADR/RID (cross-border)



ADR/RID class: 6.1 (T5) Toxic substances
Danger code (Kemler): 60
UN-Number: 1557
Packaging group: II
Special marking: Symbol (fish and tree)
Description of goods: 1557 ARSENIC COMPOUND, SOLID, N.O.S. (ammonium dihydrogen arsenate)

Maritime transport IMDG:



IMDG Class: 6.1
UN Number: 1557
Label: 6.1
Packaging group: II
Marine pollutant: No
Proper shipping name: ARSENIC COMPOUND, SOLID, N.O.S.

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 6.1
UN/ID Number: 1557
Label: 6.1
Packaging group: II
Proper shipping name: ARSENIC COMPOUND, SOLID, N.O.S.

UN "Model Regulation": UN1557, ARSENIC COMPOUND, SOLID, N.O.S., 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.
 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.

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61 Avoid release to the environment. Refer to special instructions/Safety data sheets

Special labeling of certain preparations:

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

National regulations

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 or reproductive toxicity.

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

Information about limitation of use:

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.

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

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)

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)

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