

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 06/16/2009

Reviewed on 06/16/2009

1 Identification of substance:

Product details:

Product name: 1-Aziridineethanol

Stock number: A18934

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#)

1-Aziridineethanol (CAS# 1072-52-2): 100%

Identification number(s):

EINECS Number: 214-009-4

3 Hazards identification

Hazard description:



T Toxic

Information pertaining to particular dangers for man and environment

R 24/25 Toxic in contact with skin and if swallowed.

R 34 Causes burns.

R 40 Limited evidence of a carcinogenic effect.

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	2
FIRE	2
REACTIVITY	1

Health (acute effects) = 2

Flammability = 2

Reactivity = 1

GHS label elements



Danger

3.1/2 - Fatal if swallowed.

3.1/2 - Fatal in contact with skin.



Danger

3.2/1B - Causes severe skin burns and eye damage.



Warning

3.6/2 - Suspected of causing cancer.

Warning

2.6/4 - Combustible liquid.

Prevention:

Obtain special instructions before use.

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

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Do not breathe dust/fume/gas/mist/vapours/spray.

Do not get in eyes, on skin, or on clothing.

Wash thoroughly after handling.

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Do not eat, drink or smoke when using this product.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Use personal protective equipment as required.

Response:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 IF ON SKIN: Gently wash with plenty of soap and water.
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF exposed or concerned: Get medical advice/attention.
 Immediately call a POISON CENTER or doctor/physician.
 Specific treatment (see label).
 Specific measures (see label).
 Rinse mouth.
 Remove/Take off immediately all contaminated clothing.
 Wash contaminated clothing before reuse.
 In case of fire: Use for extinction: CO2, powder or water spray.
Storage:
 Store in a well-ventilated place. Keep cool.
 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:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NOx)

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:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Additional information:

See Section 7 for information on safe handling

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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.

Information about protection against explosions and fires: Keep ignition sources away.

Storage

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

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: Not required.

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.
Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.

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

Tightly sealed goggles

Full face protection

Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information

Form:	Liquid
Color:	Colorless
	Yellow
Odor:	Not determined

Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	167-168°C (333-334°F)
Sublimation temperature / start:	Not determined

Flash point:	67°C (153°F)
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Ignition temperature:	Not determined
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Decomposition temperature:	Not determined
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Danger of explosion:	Product does not present an explosion hazard.
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Explosion limits:

Lower:	Not determined
Upper:	Not determined

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Vapor pressure: Not determined

Density at 20°C (68°F): 1.08 g/cm³

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: Oxidizing agents**Dangerous reactions** No dangerous reactions known
Dangerous products of decomposition:

Carbon monoxide and carbon dioxide

Nitrogen oxides

11 Toxicological information

Acute toxicity:
LD/LC50 values that are relevant for classification:

Oral	LD50	74 mg/kg (rat)
Dermal	LD50	71 µL/kg (rabbit)
Inhalative	LC	>850 ppm/8H (rat)
Irritation of skin	severe	100 µL/24H (rabbit)
Irritation of eyes	severe	100 µL/24H (rabbit)

Primary irritant effect:
on the skin:

Corrosive effect on skin and mucous membranes.

Irritant to skin and mucous membranes.

on the eye:

Strong corrosive effect.

Irritating effect.

Sensitization: No sensitizing effects known.
Other information (about experimental toxicology):

Tumorigenic effects have been observed on tests with laboratory animals.

Mutagenic effects have been observed on tests with bacteria.

Mutagenic effects have been observed on tests with insects.

Mutagenic effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:
Subacute to chronic toxicity:

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

Endocrine - other changes.

Blood - changes in bone marrow (not otherwise specified).

Blood - changes in spleen.

Tumorigenic - neoplastic by RTECS criteria.

Tumorigenic - tumors at site of application.

Subacute to chronic toxicity:

Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss.

Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.

Additional toxicological information:

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

Danger through skin absorption.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

IARC-3: Not classifiable as to carcinogenicity to humans.

12 Ecological information:

General notes:

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

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

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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:

UN2927

Packing group:

II

Proper shipping name (technical name): TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (1-Aziridineethanol)

Label

6.1+8

Land transport ADR/RID (cross-border)



ADR/RID class:

6.1 (TC1) Toxic substances

Danger code (Kemler):

68

UN-Number:

2927

Packaging group:

II

Description of goods: 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (1-Aziridineethanol)

Maritime transport IMDG:



IMDG Class:

6.1

UN Number:

2927

Label

6.1+8

Packaging group:

II

Proper shipping name: TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (1-Aziridineethanol)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class:

6.1

UN/ID Number:

2927

Label

6.1+8

Packaging group:

II

Proper shipping name: TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (1-Aziridineethanol)

UN "Model Regulation": UN2927, TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S., 6.1 (8), II

15 Regulations

Product related hazard informations:

Hazard symbols:

T Toxic

Risk phrases:

24/25 Toxic in contact with skin and if swallowed.

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- 34 Causes burns.
 40 Limited evidence of a carcinogenic effect.

Safety phrases:

- 20 When using do not eat or drink.
 23 Do not breathe gas/fumes/vapour/spray.
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 27 Take off immediately all contaminated clothing.
 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 45 In case of accident or if you feel unwell, seek medical advice immediately.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
 All components of this product are listed on the Canadian Domestic Substances List (DSL).

Information about limitation of use: For use only by technically qualified individuals.

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)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

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