

# Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/26/2009

Reviewed on 05/26/2009

## 1 Identification of substance:

### Product details:

**Product name:** Acetonitrile-d3

**Stock number:** 42264

### 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.

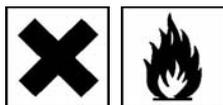
## 2 Composition/Data on components:

### Chemical characterization:

**Description:** (CAS#)  
acetonitrile-d3 (CAS# 2206-26-0); 100%  
**Identification number(s):**  
**EINECS Number:** 218-616-5

## 3 Hazards identification

### Hazard description:



Xn Harmful  
F Highly flammable

### Information pertaining to particular dangers for man and environment

R 11 Highly flammable.  
R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.  
R 36 Irritating to eyes.

### Classification system

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

HEALTH	3	Health (acute effects) = 3
FIRE	3	Flammability = 3
REACTIVITY	1	Reactivity = 1

### GHS label elements



**Danger**

2.6/2 - Highly flammable liquid and vapour.



**Danger**

3.1/3 - Toxic if swallowed.  
3.1/3 - Toxic in contact with skin.  
3.1/4 - Harmful if inhaled.  
3.3/2A - Causes serious eye irritation.

### Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting/ equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
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.  
Wear protective gloves/protective clothing/eye protection/face protection.

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**Response:**

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
 IF ON SKIN: 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.  
 Call a POISON CENTER or doctor/physician if you feel unwell.  
 Specific treatment (see label).  
 Specific measures (see label).  
 Rinse mouth.  
 If eye irritation persists: Get medical advice/attention.  
 Remove/Take off immediately all contaminated clothing.  
 Wash contaminated clothing before reuse.  
 In case of fire: Use for extinction: CO<sub>2</sub>, 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.  
 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**

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

**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  
 Keep away from ignition sources

**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).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Keep away from ignition sources.

**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.

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## 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:

Keep ignition sources away.  
 Protect against electrostatic charges.  
 Fumes can combine with air to form an explosive mixture.

### Storage

**Requirements to be met by storerooms and receptacles:** Store in a cool location.

#### Information about storage in one common storage facility:

Store away from oxidizing agents.  
 Store away from reducing agents.  
 Do not store together with oxidizing and acidic materials.  
 Do not store together with alkalies (caustic solutions).

#### 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:

#### Acetonitrile

	ppm
ACGIH TLV	20 (skin)
Belgium TWA	40, 60-STEL (skin)
France TWA	40
Germany TWA	40
Netherlands TWA	40
Switzerland TWA	40, 80-STEL (skin)
United Kingdom TWA	40, 60-STEL
Russia TWA	10 mg/m <sup>3</sup>
Denmark TWA	40, 60-STEL
Finland TWA	40, 60-STEL
Hungary TWA	50 mg/m <sup>3</sup> , 100 mg/m <sup>3</sup> -STEL (skin)
USA	40

**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

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

## 9 Physical and chemical properties:

### General Information

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Aromatic

### Change in condition

<b>Melting point/Melting range:</b>	-45°C (-49°F)
<b>Boiling point/Boiling range:</b>	81°C (178°F)
<b>Sublimation temperature / start:</b>	Not determined

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<b>Flash point:</b>	5°C (41°F)
<b>Ignition temperature:</b>	524°C (975°F)
<b>Decomposition temperature:</b>	Not determined
<b>Explosion limits:</b>	
<b>Lower:</b>	4.4 Vol %
<b>Upper:</b>	16 Vol %
<b>Vapor pressure:</b>	Not determined
<b>Density at 20°C (68°F):</b>	0.863 g/cm <sup>3</sup>
<b>Solubility in / Miscibility with Water:</b>	Fully miscible

## 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

Bases

Alkali metals

Oxidizing agents

Reducing agents, easily oxidized materials

**Dangerous reactions**

Can react violently with oxygen rich (oxidizing) material. Danger of Explosion.

**Dangerous products of decomposition:**

Nitrogen oxides

Carbon monoxide and carbon dioxide

Hydrogen cyanide (prussic acid)

## 11 Toxicological information

**Acute toxicity:**

**LD/LC50 values that are relevant for classification:**

Oral	LD50	200 mg/kg (cat)
		177 mg/kg (guinea pig)
		269 mg/kg (mouse)
		2460 mg/kg (rat)
		50 mg/kg (rabbit)
Inhalative	LC50	18000 mg/m <sup>3</sup> (cat)
		2693 ppm/1H (mouse)
		5655 mg/m <sup>3</sup> /4H (guinea pig)
		2828 ppm/4H (rabbit)
		7551 mg/m <sup>3</sup> /8H (rat)

**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:**

Acetonitrile may cause skin, eye, respiratory and gastrointestinal irritation. Exposure may also cause flushing of the face and tightness in the chest, followed by headache, nausea, vomiting, respiratory distress, weakness, abdominal pain, convulsions, shock, unconsciousness and death. Severity of symptoms is a function of time of exposure and dose level. Target organs include the liver, kidneys, central nervous system, lungs and blood.

**Additional toxicological information:**

Danger through skin absorption.

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

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

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## 12 Ecological information:

**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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

## 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.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

**DOT regulations:**


**Hazard class:** 3  
**Identification number:** UN1648  
**Packing group:** II  
**Hazardous substance:** 5000 lbs, 2270 kg  
**Proper shipping name (technical name):** ACETONITRILE  
**Label:** 3

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


**ADR/RID class:** 3 (F1) Flammable liquids  
**Danger code (Kemler):** 33  
**UN-Number:** 1648  
**Packaging group:** II  
**Description of goods:** 1648 ACETONITRILE

**Maritime transport IMDG:**


**IMDG Class:** 3  
**UN Number:** 1648  
**Label:** 3  
**Packaging group:** II  
**EMS Number:** F-E, S-D  
**Proper shipping name:** ACETONITRILE

**Air transport ICAO-TI and IATA-DGR:**


**ICAO/IATA Class:** 3  
**UN/ID Number:** 1648  
**Label:** 3  
**Packaging group:** II  
**Proper shipping name:** ACETONITRILE

**UN "Model Regulation":** UN1648, ACETONITRILE, 3, II

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### 15 Regulations

**Product related hazard informations:**

**Hazard symbols:**

Xn Harmful

F Highly flammable

**Risk phrases:**

11 Highly flammable.

20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

36 Irritating to eyes.

**Safety phrases:**

16 Keep away from sources of ignition - No smoking.

36/37 Wear suitable protective clothing and gloves.

**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.

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 is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

### 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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