

SAFETY DATA SHEET

according to EC directive 2001/58/EC
Version 3.0 Revision Date 23.03.2007
Print Date 20.02.2008

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : **Acetonitrile**

Product Number : 34888
Brand : Sigma-Aldrich

Company : Sigma-Aldrich Company Ltd.
The Old Brickyard
NEW ROAD, GILLINGHAM
Dorset
SP8 4XT
UNITED KINGDOM

Telephone : +44 (0)1747 833000
Fax : +44 (0)1747 833313
Emergency Phone # : +44 (0)1747 833100

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C₂H₃N
Molecular Weight : 41.05 g/mol

CAS-No.	EC-No.	Index-No.	Classification	Concentration [%]
Acetonitrile				
75-05-8	200-835-2	608-001-00-3	F, Xn, R11- R20/21/22- R36	-

3. HAZARDS IDENTIFICATION

Risk advice to man and the environment

Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide (CO₂) For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Acetonitrile	75-05-8	TWA	40 ppm 70 mg/m ³	2006-02-01	EU. Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC Text with EEA relevance
		STEL	60 ppm 102 mg/m ³	1997-01-01	UK. Health and Safety Commission, EH 40/2005, Workplace exposure limits
		TWA	40 ppm	1997-01-01	UK. Health and Safety

68 mg/m³Commission, EH 40/2005,
Workplace exposure limits**Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it.

Eye protection

Safety glasses

Skin and body protection

impervious clothing, Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	liquid, clear
Colour	colourless
Odour	pungent

Safety data

pH	no data available
Melting point	-48.0 °C
Boiling point	81.0 - 82.0 °C
Flash point	2.0 °C - closed cup
Ignition temperature	523 °C
Lower explosion limit	4.4 %(V)
Upper explosion limit	16 %(V)
Vapour pressure	97.1 hPa at 20.0 °C
Density	0.78 g/cm ³
Water solubility	soluble
Partition coefficient (n-octanol/water)	log Pow: -0.34

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

acids, Bases, Oxidizing agents, Reducing agents, Alkali metals

Hazardous decomposition products**Hazardous decomposition products formed under fire conditions.**

Carbon oxides, nitrogen oxides (NOx), Hydrogen cyanide (hydrocyanic acid)

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

LD50 Oral - rat - 2,460 mg/kg

LC50 Inhalation - rat - 8 h - 7551 ppm

Remarks: Behavioral: Altered sleep time (including change in righting reflex). Behavioral: Convulsions or effect on seizure threshold. Blood: Hemorrhage.

LD50 Dermal - rabbit - 2,000 mg/kg

Irritation and corrosion

Skin - rabbit - Mild skin irritation

Eyes - rabbit - Severe eye irritation

Sensitization

Remarks: no data available

Chronic exposure

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Signs and Symptoms of Exposure

Treat as cyanide poisoning., Always have on hand a cyanide first-aid kit, together with proper instructions., The onset of symptoms is generally delayed pending conversion to cyanide., Nausea, Vomiting, Diarrhoea, Headache, Dizziness, Rash, Cyanosis, excitement, depression, Drowsiness, impaired judgment, Lack of coordination, stupor, death

Potential Health Effects

Inhalation	Harmful if inhaled. May cause respiratory tract irritation.
Skin	Harmful if absorbed through skin. May cause skin irritation.
Eyes	Causes eye irritation.
Ingestion	Harmful if swallowed.
Target Organs	Lungs, Blood, Kidney, Liver, Central nervous system,

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

Biodegradability Remarks: no data available

Ecotoxicity effects

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 1,640.00 mg/l - 96 h

Toxicity to daphnia EC50 - Daphnia magna (Water flea) - 3,600.00 mg/l - 48 h

and other aquatic
invertebrates.

NOEC - Daphnia magna (Water flea) - 640 mg/l - 14 d

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS**Product**

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**ADR/RID**

UN-No.: 1648 Class: 3 Packing group: II
Proper shipping name: ACETONITRILE

IMDG

UN-No.: 1648 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: ACETONITRILE
Marine pollutant: No

IATA

UN-No.: 1648 Class: 3 Packing group: II
Proper shipping name: Acetonitrile

15. REGULATORY INFORMATION**Labelling according to EC Directives**

EC Label

Hazard symbols

F	Highly flammable
Xn	Harmful

R-phrases(s)

R11	Highly flammable.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R36	Irritating to eyes.

S-phrases(s)

S16	Keep away from sources of ignition - No smoking.
S36/37	Wear suitable protective clothing and gloves.

16. OTHER INFORMATION**Further information**

Copyright (2007): Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.