SIGMA-ALDRICH

Material Safety Data Sheet

Version 3.2
Revision Date: 01/11/2008
Print Date: 03/20/2008

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Acetonitrile
Product Number: 271004
Brand: Aldrich
Company: Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone: +1 800-325-3832
Fax: +1 800-325-5022
Emergency Phone #: (314) 776-5555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula: C2H3N
Molecular Weight: 41.05 g/mol
CAS-No.: EC-No.: Index-No.: Concentration
Acetonitrile
75-05-8 200-935-2 608-001-00-3 -

3. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards
Flammable Liquid
Target Organ Effect
Harmful by Ingestion.
Harmful by skin absorption.
Irritant
Target Organs
Lungs, Blood, Kidney, Liver, Central nervous system

HMIS Classification
Health Hazard: 2
Chronic Health Hazard: *
Flammability: 3
Physical hazards: 0

NFPA Rating
Health Hazard: 2
Fire: 3
Reactivity Hazard: 0

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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

Flammable properties
Flash point: 2.0 °C (35.6 °F) - closed cup
Ignition temperature: 523 °C (973 °F)
Suitable extinguishing media
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

Aldrich - 271004
November 11, 2007
Page 1 of 7

Sigma-Aldrich Corporation
www.sigma-aldrich.com

Aldrich - 271004
November 11, 2007
Page 2 of 7

Sigma-Aldrich Corporation
www.sigma-aldrich.com
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
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. Store in cool place. Handle and store under inert gas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetonitrile</td>
<td>75-05-8</td>
<td>TWA 20 ppm</td>
<td>2002-01-01</td>
<td>US, American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004, Committee on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)</td>
<td></td>
</tr>
</tbody>
</table>

Remarks
2002 Adoption. Refer to Appendix A - Carcinogens.

TWA 40 ppm 70 mg/m³ 1989-03-01 US, Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 2-1-A

STEL 65 ppm 105 mg/m³ 1989-03-01 US, Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 2-1-A

TWA 40 ppm 70 mg/m³ 1993-06-30 US, Department of Labor - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) 29 CFR 1910.1000 Air Contaminants.

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.

Eye protection
Safety glasses
Skin and body protection
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 (-54.4 °F)
Boiling point 81.0 - 82.0 °C (177.8 - 179.6 °F)
Flash point 2.0 °C (35.6 °F) - closed cup
Ignition temperature 523 °C (973 °F)
Lower explosion limit 4.4 % (V)
Upper explosion limit 16 % (V)
Vapour pressure 97.1 hPa (72.6 mmHg) at 20.0 °C (68.0 °F)
Density 0.78 g/cm³
Water solubility soluble
Partition coefficient log Pow: -0.34
n-octanol/water

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)

Hazardous reactions
Vapours may form explosive mixture with air.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral - rat - 2,460 mg/kg
13. DISPOSAL CONSIDERATIONS

Product
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. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN-Number: 1648 Class: 3
Proper shipping name: Acetonitrile
Packing group: II
EMS-No: F-E, S-O

IMDG
UN-Number: 1648 Class: 3
Proper shipping name: ACETONITRILE
Marine pollutant: No

IATA
UN-Number: 1648 Class: 3
Proper shipping name: Acetonitrile
Packing group: II

15. REGULATORY INFORMATION

OSHA Hazards
Flammable Liquid, Target Organ Effect, Harmful by ingestion, Harmful by skin absorption, Irritant

TSCA Status
On TSCA Inventory

DSL Status
All components of this product are on the Canadian DSL list.

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
Acetonitrile
CAS-No: 75-05-8
Revision Date: 1987-01-01

SARA 311/312 Hazards
Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
Acetonitrile
CAS-No: 75-05-8
Revision Date: 1987-01-01

Pennsylvania Right To Know Components
Acetonitrile
CAS-No: 75-05-8
Revision Date: 1987-01-01

New Jersey Right To Know Components
Acetonitrile
CAS-No: 75-05-8
Revision Date: 1987-01-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)
no data available

Ecotoxicity effects
Toxicity to fish: LC50 - Pimephales promelas (fathead minnow) - 1,640.00 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 3,600.00 mg/l - 48 h
NOEC - Daphnia magna (Water flea) - 640 mg/l - 14 d

Further information on ecology
no data available

11. TRANSPORT INFORMATION

Packing group: II
EMS-No: F-E, S-O

Acetonitrile
CAS-No: 75-05-8
Revision Date: 1987-01-01

Pennsylvania Right To Know Components
Acetonitrile
CAS-No: 75-05-8
Revision Date: 1987-01-01

New Jersey Right To Know Components
Acetonitrile
CAS-No: 75-05-8
Revision Date: 1987-01-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)
no data available

Ecotoxicity effects
Toxicity to fish: LC50 - Pimephales promelas (fathead minnow) - 1,640.00 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 3,600.00 mg/l - 48 h
NOEC - Daphnia magna (Water flea) - 640 mg/l - 14 d

Further information on ecology
no data available
16. OTHER INFORMATION

Further information
Copyright 2008 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.