

MATERIAL SAFETY DATA SHEET

Product Name: Acetonitrile

CAS No.: 75-05-8

Version: 01

1. Identification

Product Code : 90005, 90006, 90004, 90003, 90103, 90303, 90066, 90099, 98113
Company Name : Advent Chembio Private Limited
Address : W-288, MIDC, TTC INDUSTRIAL AREA, THANE-BELAPUR ROAD, RABALE, NAVI MUMBAI - 400 701.
E-mail : info@adventchembio.com
WEBSITE : www.adventchembio.com
Company Phone Number : 022-27690837

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
ACETONITRILE	75-05-8	99 - 100%	Yes

3. Hazards Identification**Hazard classification****Physical hazards**

Flammable liquids : Category 2

Health hazards

Acute Toxicity(Oral) : Category 4

Acute Toxicity(Inhalation –gas) : Category 4

Serious eye damage/eye irritation : Category 2

Labels elements

Hazard symbol

**Signal word** : Danger**Hazard statement** : Highly flammable liquid and vapor.
Harmful if swallowed.
Harmful if inhaled.
Causes serious eye irritation.

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Precautionary statement

- Prevention** : Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapors/spray.
- Response** : In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
- Storage** : Store at room temperature below 30°C in original packing, keep container tightly closed away from source of ignition, handle at inert atmosphere.
- Disposal** : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Other hazards which do not result in GHS classification** : Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

4. First Aid Measures

- General information** : Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand. Show this safety data sheet to the doctor in attendance.
- Ingestion** : Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
- Inhalation** : Move to fresh air. Get medical attention if symptoms persist.
- Skin contact** : Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash

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- contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes
- Eye contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Most important symptoms/effects, acute and delayed** : Irritating to eyes, respiratory system and skin.
- Indication of immediate medical attention and special treatment needed** : The exposure should be treated as a cyanide poisoning. Symptoms may be delayed.

5. Fire Fighting Measures

- General fire hazards** : Highly flammable liquid and vapour.
- Suitable (and unsuitable) extinguishing media**
- Suitable extinguishing media** : Water spray, fog, CO₂, dry chemical or alcohol resistant foam.
- Unsuitable extinguishing media** : Avoid water in straight hose stream; will scatter and spread fire.
- Specific hazards arising from the chemical** : Can be ignited easily and burns vigorously. Vapor from the solvent may accumulate in container headspace resulting in flammability hazard. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger.
- Special protective equipment and precautions for firefighters**
- Special fire fighting procedures** : Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.
- Special protective equipment for fire-fighters** : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures** : Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Contact local authorities in case of spillage to drain/aquatic environment.
- Methods and material for containment and cleaning up** : Eliminate all ignition sources if safe to do so. Dike far ahead of larger spill for later recovery and disposal. Absorb spill with vermiculite or other inert material, then place in a container for

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- chemical waste. Clean surface thoroughly to remove residual contamination.
- Notification Procedures** : Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved
- Environmental precautions** : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

- Precautions for safe handling** : Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid heat, sparks, open flames and other ignition sources. Take precautionary measures against static discharges. Avoid contact with eyes, skin, and clothing. Avoid breathing mist or vapor. Use only with adequate ventilation.
- Conditions for safe storage, including any incompatibilities** : Store at room temperature below 30°C in original packing, keep container tightly closed away from source of ignition, handle at inert atmosphere.
Keep far from flame and heat source; prevent contact with direct sunlight Keep away from food, drink and animal feeding stuffs. Follow rules for flammable liquids. Ground container and transfer equipment to eliminate static electric sparks.

8. Exposure Controls Personal Protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
ACETONITRILE	TWA	20 ppm	US. ACGIH Threshold Limit Values (2011)
	REL	20 ppm 34 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	40 ppm 70 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

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	TWA	40 ppm 70 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	60 ppm 105 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Appropriate engineering controls : No data available.

Individual protection measures, such as personal protective equipment

General information : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection : Wear safety glasses with side shields (or goggles). Wear face shield if there is risk of splashes.

Hand protection : Chemical resistant gloves.

Other : Wear suitable protective clothing.

Respiratory protection : In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge and full face piece.

Hygiene measures : Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and Chemical Properties

Appearance : Clear, colorless liquid.
 Odor : Ether odor.
 Solubility : Miscible in water.
 Specific Gravity : 0.79 @ 15C/4C
 pH : No information found.
 % Volatiles by volume @ 21C (70F) : 100
 Boiling Point : 81.6C (180F)
 Melting Point : -46C (-51F)
 Flash point : 2.0 °C - closed cup
 Vapor Density (Air=1) : 1.4
 Vapor Pressure (mm Hg) : 73 @ 20C (68F)
 Evaporation Rate (BuAc=1) : 5.79

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10. Stability and Reactivity

- Reactivity** : No dangerous reaction known under conditions of normal use.
- Chemical stability** : Material is stable under normal conditions.
- Possibility of hazardous reactions** : Hazardous polymerization does not occur.
- Conditions to avoid** : Heat, sparks, flames.
- Incompatible materials** : Strong oxidizing agents. Strong acids. Nitrates.
- Hazardous decomposition products** : Carbon dioxide Carbon monoxide Nitrogen Oxides Cyanides.

11. Toxicological Information

- General information** : Cyanosis may result from overexposure to vapor or skin exposure.
- Information on likely routes of exposure**
- Ingestion** : Harmful if swallowed. Irritating. May cause nausea, stomach pain and vomiting.
- Inhalation** : Harmful if inhaled. Spray mists irritate the respiratory system, and cause coughing and difficulties in breathing.
- Skin contact** : Prolonged or repeated skin contact may cause drying, cracking, or irritation. May be harmful in contact with skin. Causes mild skin irritation.
- Eye contact** : Causes serious eye irritation.
- Information on toxicological effects**
- Acute toxicity (list all possible routes of exposure)**
- Oral Product** : LD 50 (Rat): 1,320 mg/kg.
- Dermal Product** : LD 50 (Rabbit): > 2,000 mg/kg.
- Inhalation Product** : LC 50 (Rabbit, 4 h): 2828 ppm.
LC 50 (Rat, 8 h): 7500 ppm.
- Repeated dose toxicity Product** : No data available.
- Skin corrosion/irritation Product** : Causes mild skin irritation.
- Serious eye damage/eye irritation Product** : Causes serious eye irritation.
- Respiratory or skin sensitization Product** : Not a skin nor a respiratory sensitizer.

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Carcinogenicity Product	:	This substance has no evidence of carcinogenic properties.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	:	No carcinogenic components identified.
US. National Toxicology Program (NTP) Report on Carcinogens	:	No carcinogenic components identified.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	:	No carcinogenic components identified.
Germ cell mutagenicity		
In vitro Product	:	No mutagenic components identified.
In vivo Product	:	No mutagenic components identified.
Reproductive toxicity Product	:	No components toxic to reproduction.
Specific target organ toxicity - single exposure Product	:	Not known.
Specific target organ toxicity - repeated exposure Product	:	None known.
Aspiration hazard Product	:	Not classified.
Other effects	:	None known.

12. Ecological Information**Ecotoxicity****Acute hazards to the aquatic environment :**

Fish Product	:	LC 50 (Fathead minnow (<i>Pimephales promelas</i>), 96 h): 1,000 mg/l Mortality LC 50 (Bluegill (<i>Lepomis macrochirus</i>), 96 h): 1,850 mg/l Mortality LC 50 (Carp (<i>Leuciscus idus melanotus</i>), 48 h): 5,850 mg/l Mortality.
Aquatic invertebrates Product	:	LC 50 (Brine shrimp (<i>Artemia salina</i>), 24 h): 328 - 486 mg/l Mortality LC 50 (Water flea (<i>Daphnia magna</i>), 48 h): 3,600 mg/l Mortality.

Chronic hazards to the aquatic environment :

Fish Product	:	No data available.
Aquatic invertebrates Product	:	No data available.
Toxicity to Aquatic Plants Product:	:	No data available.
Persistence and degradability		
Biodegradation Product	:	There are no data on the degradability of this product.
BOD/COD ratio Product	:	No data available.
Bioaccumulative potential		
Bioconcentration factor (BCF) Product	:	No data available on bioaccumulation.
Partition coefficient n-octanol /	:	No data available.

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water (log Kow) Product

Specified substance(s) : Log Kow: -0.34

ACETONITRILE

Mobility in soil : The product is partly soluble in water. May spread in the aquatic environment.

Other adverse effects : The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal consideration

Disposal instructions : Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging : Since emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container.

14. Transport Information

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	UN 1648	Acetonitrile	3	II	No
IMDG	UN 1648	Acetonitrile	3	II	No
IATA	UN 1648	Acetonitrile	3	II	No

15. Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

16. Other Information

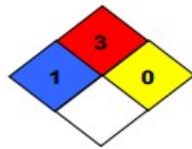
NFPA Hazard ID

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Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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