

## SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

Catalog No.  
L15086 or  
A17958

**Product Name:** **Methacrylonitrile, 99%**  
**Synonyms:** 2-Methylacrylonitrile, 2-Methylpropenenitrile

**Manufacturer/Supplier Name:** Alfa Aesar - A Johnson Matthey Company  
**Address:** 30 Bond St.  
Ward Hill, MA 01835

**Business Phone:** 978-521-6300

**Business Fax:** 978-521-6350

**For information**

**in North America, call:** 978-521-6300

**CHEMTREC Numbers:**

**For emergencies in the US, call CHEMTREC: 800-424-9300**

**For emergencies outside US, call INTERNATIONAL: (703)527-3887**

**For Nonemergency, call: (800)262-8200**

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## SECTION 2 : COMPOSITION, INFORMATION ON INGREDIENTS

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**Chemical Name** Methacrylonitrile  
**CAS#** 126-98-7  
**% Weight (Typical)** 99

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## SECTION 3 : HAZARDS IDENTIFICATION

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**Emergency Overview:** Flammable. Toxic. Reproductive effects. Irritant. Environmental Hazard.

**Methacrylonitrile:**

**Route of Exposure:** Eyes. Skin. Inhalation. Ingestion.

**Potential Health Effects:**

**Eye Contact:** Can cause tearing.

**Skin Contact:** Possible skin sensitiser.

**Skin Absorption:** Highly toxic by skin contact.

**Inhalation:** Toxic by inhalation.

**Ingestion:** Toxic by ingestion.

**Target Organs:** Eyes. Skin. Respiratory system. G.I. Tract. Reproductive System.

**Signs/Symptoms:** Effects of exposure may include central nervous system, blood, & liver disorders. Symptoms may include weakness, tremors, cyanosis and convulsions.

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**SECTION 4 : FIRST AID MEASURES**Catalog No. L15086  
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<b>Eye Contact:</b>	Immediately flush eyes with plenty of water for at least 20 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention if irritation persists, or symptoms of overexposure become apparent.
<b>Skin Contact:</b>	Immediately wash skin with plenty of water for at least 20 minutes, while removing contaminated clothing and shoes. Get medical attention especially, if irritation develops, persists, or symptoms of overexposure become apparent.
<b>Inhalation:</b>	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Keep warm. Get immediate medical attention.
<b>Ingestion:</b>	If swallowed, call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting unless instructed by medical personnel. Get medical attention.

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**SECTION 5 : FIRE FIGHTING MEASURES**Catalog No. L15086  
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<b>Fire:</b>	Flammable liquid.
<b>Flash Point:</b>	-1°C (30.2°F)
<b>Upper Flammable or Explosive Limit:</b>	6.8 vol %
<b>Lower Flammable or Explosive Limit:</b>	2 vol %
<b>Extinguishing Media:</b>	Use dry powder or carbon dioxide when fighting a fire involving this material.
<b>Unsuitable Media:</b>	Water extinguishers are not recommended.
<b>Protective Equipment:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

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**SECTION 6 : ACCIDENTAL RELEASE MEASURES**Catalog No. L15086  
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<b>Personal Precautions:</b>	Use proper personal protective equipment as listed in section 8.
<b>Spill Cleanup Measures:</b>	Clean up spills immediately, observing precautions in the Protective Equipment section. Absorb spill with dry inert material such as dry sand, earth, or vermiculite, then place in suitable container. Refer to section 13 for proper disposal.
<b>Environmental Precautions:</b>	Do not allow material to enter drains or streams.

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**SECTION 7 : HANDLING and STORAGE**Catalog No. L15086  
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<b>Handling:</b>	This product should be handled only by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals, who should take into account the fire, health and chemical hazard data. It should always be handled in an efficient fume hood or equivalent system. The user should consider that the toxicological and physiological properties of many compounds are not yet well determined and that new hazardous products may arise from reactions between chemicals. Care should be taken to prevent any chemical from coming into contact with the skin or eyes and from contaminating personal clothing.
<b>Storage:</b>	Store in a cool, dry, well ventilated area away from sources of heat and incompatible substances. Keep container tightly closed when not in use. Retest in 3 years
<b>Hygiene Practices:</b>	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

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**SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION**Catalog No. L15086  
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<b>Guideline Type:</b>	NIOSH REL-TWA
<b>Guideline Information:</b>	1 ppm 3 mg/m <sup>3</sup>
<b>Guideline Type:</b>	ACGIH TLV-TWA
<b>Guideline Information:</b>	1 ppm 2.7 mg/m <sup>3</sup>
<b>Engineering Controls:</b>	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
<b>Skin Protection Description:</b>	Wear suitable protective clothing to prevent contact with skin.
<b>Hand Protection Description:</b>	Wear appropriate protective gloves. Consult glove manufacturers for glove permeability data.
<b>Eye/Face Protection:</b>	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
<b>Respiratory Protection:</b>	A NIOSH approved air-purifying respirator with an appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited to airborne concentrations that are typically within 10 times the exposure limit. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirators use.
<b>Other Protective:</b>	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Ingredient Guidelines****Ingredient:** Methacrylonitrile[To Top of page](#)

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**SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES**Catalog No. L15086  
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Physical State/Appearance:	Liquid
Color:	Colorless
Odor:	Bitter almond-like
Vapor Pressure:	94 mbar @ 25°C (77°F)
Vapor Density:	2.31
Flash Point:	-1°C (30.2°F)
Upper Explosive Limit:	6.8 vol %
Lower Explosive Limit:	2 vol %
Boiling Point:	90-92°C (194-197.6°F)
Melting Point:	-35°C (-31°F)
n-Octanol/water partition coefficient:	0.68
Solubility in Fat:	Yes
Solubility in Water:	16.2 g/L @ 20°C (68°F)
Density:	0.8
Dynamic Viscosity:	0.392 mPa.s @ 20°C (68°F)
Molecular Formula:	C <sub>4</sub> H <sub>5</sub> N
Molecular Weight:	67.09

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**SECTION 10 : STABILITY and REACTIVITY**Catalog No. L15086  
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Chemical Stability:	Stabilized with 0.1% hydroquinone or 50 ppm 4-methoxyphenol. Do not store unstabilized material. Polymerisation may be induced by heat, light, acids or free-radical initiators.
Conditions to Avoid:	High temperatures, flames and sparks. Direct sunlight or other strong light.
Incompatibilities with Other Materials:	Oxidizing agents. Strong reducing agents. Strong acids. Peroxy compounds or other free-radical initiators. Combustible material.
Possible Decomposition Product:	Carbon monoxide. Hydrogen cyanide, oxides of nitrogen.

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**SECTION 11 : TOXICOLOGICAL INFORMATION**Catalog No. L15086  
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**Methacrylonitrile :**

RTECS Number:	UD1400000
Eye Effect:	Eye - rabbit: 50 mg; No data Eye - rabbit: 500 mg/24H; Mild irritation. (RTECS)
Skin Effects:	Skin - rabbit LD50: 0.35 mL/kg (HSDB)
Ingestion Effects:	Oral - rat LD50: 120 mg/kg (RTECS); Oral - mouse LD50: 17 mg/kg (RTECS); Oral - rabbit LD50: 16 mg/kg (RTECS)
Inhalation Effects:	Inhalation - rat LC50: 328 ppm/4H [Behavioral - convulsions or effect on seizure threshold Lungs, Thorax, or Respiration - dyspnea] (RTECS); Inhalation -mouse LC50: 36 ppm/4H [Behavioral - convulsions or effect on seizure threshold] (RTECS); Inhalation -rabbit LC50: 37 ppm/4H [Behavioral - convulsions or effect on seizure threshold] (RTECS); Inhalation -guinea pig LC50: 88 ppm/4H [Behavioral - convulsions or effect on seizure threshold] (RTECS)
Chronic Ingestion Effects:	Oral - rat TDLo: 5400 mg/kg/90D-I Nutritional and Gross Metabolic - weight loss or decreased weight gain (RTECS)
Chronic Inhalation Effects:	Inhalation - rat TCLo: 109 ppm/7H/91 Liver - other changes Related to Chronic Data - death (RTECS)
Mutagenicity:	Experimental mutagenicity: negative. (Supplier data).
Teratogenicity:	Teratogenic effects. (RTECS)
Reproductive Toxicity:	Reproductive effects. (RTECS)
Other Toxicological Information:	Intraperitoneal - mouse LDLo: 15 mg/kg

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**SECTION 12 : ECOLOGICAL INFORMATION**

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Ecotoxicity:	No data available. Expected to be toxic to aquatic organisms.
Bioaccumulation:	Not expected to bioaccumulate and/or bioconcentrate in aquatic organisms. Estimated BCF 2 (HSDB).
Biodegradation:	Insufficient data to predict biodegradability in soil and water (HSDB). Vapor is readily photodegradable in the atmosphere, estimated half-life 48 hour (HSDB).
Environmental Stability:	May cause long-term adverse effects in the environment.

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**SECTION 13 : DISPOSAL CONSIDERATIONS**

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Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines, by a licensed disposal company.
EPA Waste Number:	U152 for Methacrylonitrile CAS Number: 126-98-7

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**SECTION 14 : TRANSPORT INFORMATION**

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DOT Shipping Name:	METHACRYLONITRILE, INHIBITED
DOT Hazard Class:	3
DOT Identification Number:	UN3079
DOT Packing Group:	I

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**SECTION 15 : REGULATORY INFORMATION**Catalog No. L15086  
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**Methacrylonitrile :****TSCA 8(b): Inventory Status:** Listed on the TSCA inventory.**TSCA 12(b): Export Notification** None of the chemicals are listed under TSCA Section 12b.**Section 302 Extremely Hazardous Substances (RQ):** CAS# 126-98-7: final RQ = 1000 pounds (454 kg)**State:** Methacrylonitrile can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts. California No Significant Risk Level: None of the chemicals in this product are listed.**Risk Phrases:** R11 Highly flammable.  
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.  
R43 May cause sensitization by skin contact.  
R51/53 Toxic to aquatic organisms, may cause long term adverse effects in the environment.**Safety Phrase:** S9 Keep container in a well ventilated place.  
S16 Keep away from sources of ignition No smoking.  
S18 Handle and open container with care.  
S29 Do not empty into drains.  
S45 In case of accident or if you feel unwell, seek medical advice immediately  
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.[To Top of page](#)

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**SECTION 16 : ADDITIONAL INFORMATION**Catalog No. L15086  
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**MSDS Preparation Date:** January 1, 2002, Version 1**MSDS Revision Date:** April 14, 2003.**MSDS Author:** Actio Corporation.**Disclaimer:**

This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet. We welcome any additional information about our products that customers have obtained by personal experience.

**References:**

1. American Chemical Society, STN Easy Online Database
2. Brethericks Reactive Chemical Hazards Database. Version 2.
3. Gassarett and Doulls Toxicology, The Basic Science of Poisons.
4. Hawleys Condensed Chemical Dictionary, Thirteenth Edition
5. IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, WHO International Research on Cancer.
6. Industrial Hygiene and Toxicology, by F.A. Patty.
7. National Library of Medicine, Department of Health and Human Services, Hazardous Substances Data Bank (HSDB).
8. National Toxicology Program (NTP) Eighth Report on Carcinogens, 1997.
9. NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) and Pocket Guide to Chemical

Hazards.

10. OSHA Hazard Communication Standard, 1910.1200 and Z Tables.
11. Sax Dangerous Properties of Industrial Materials. Tenth Edition.
12. The Merck Index: An Encyclopedia of Chemicals and Drugs. Merck and Company. Twelfth Edition 1998.
13. Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environmental and Biological Exposure Indices. TLV Booklet, 2001.

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