Multichem Specialities Pvt. Ltd.
1215, Dalamal Tower,
Nariman Point, Mumbai 400021, India
T: +91 2243432121
E: multichem@multichemindia.com
www.multichemindia.com

ESTD.1976 MULTI CHEM YOUR CHEMICAL PARTNER

SAFETY DATA SHEET

# MALONONITRILE

## SECTION 1: Identification of the substance/mixture and of the company/undertaking Trade name:

| | |
|---|---|
| **1.1 Product identifier**: | |
| **CAS Number:** | 109-77-3 |
| **EC number:** | 203-703-2 |
| **1.2 SYNONYMS:** | • 2-Cyanopropionitrile<br>• 2-Cyano-2-propionitrile<br>• 1,3-Dicyanopropane<br>• Propanedinitrile |

## SECTION 2: Hazards identification:

| | |
|---|---|
| **2.1 Classification of the substance or mixture:** | Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation. |
| **2.2 Label elements:** | Labelling according to Regulation (EC) No 1272/2008<br>Acute toxicity, Oral(Category 3)<br>Acute toxicity, Dermal(Category 3)<br>Skin corrosion/irritation(Category 2)<br>Eye Damage/Irritation (Category 2A) |
| **Hazard Pictograms:** |  |
| **Signal Word:** | Danger |
| **Hazard statements:** | **H300:** Fatal if swallowed<br>**H310:** Fatal in contact with skin<br>**H330:** Fatal if inhaled<br>**H315:** Causes skin irritation<br>**H319:** Causes serious eye irritation<br>**H335:** May cause respiratory irritation<br>**H411:** Toxic to aquatic life with long-lasting effects |

**Multichem Specialities Pvt. Ltd.**
1215, Dalamal Tower,
Nariman Point, Mumbai 400021, India
T: +91 2243432121
E: multichem@multichemindia.com
**www.multichemindia.com**



| | |
|---|---|
| **Precautionary Statements:** | **P202**: Do not handle until all safety precautions have been read and understood.<br>**P260**: Do not breathe dust, fumes, gas, mist, vapors, or spray.<br>**P280**: Wear protective gloves, protective clothing, and eye protection.<br>**P271**: Use only outdoors or in a well-ventilated area.<br>**P301 + P310**: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.<br>**P302 + P350**: IF ON SKIN: Gently wash with plenty of soap and water.<br>**P304 + P340**: IF INHALED: Remove person to fresh air and keep comfortable for breathing.<br>**P305 + P351 + P338**: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.<br>**P310**: Immediately call a POISON CENTER or doctor/physician.<br>**P403 + P233**: Store in a well-ventilated place. Keep container tightly closed.<br>**P405**: Store locked up.<br>**P501**: Dispose of contents/container to an approved waste disposal plant. |
| **2.3 Other hazards:** | |
| **Inhalation**: | can cause severe respiratory irritation, coughing, difficulty breathing, and may be fatal if exposure is prolonged or concentrated. |
| **Ingestion:** | can be fatal, causing severe toxicity, nausea, vomiting, abdominal pain, and potentially leading to organ damage or failure. |

| | |
|---|---|
| **Skin Contact:** | can cause irritation, absorption through the skin may lead to systemic toxicity, and it can be fatal if absorbed in significant amounts. |
| **Eye contact:** | can cause severe irritation, redness, pain, and potential long-term damage to the eyes. |
| **Chronic Exposure:** | may lead to adverse effects on the nervous system, including headaches, dizziness, and potentially long-term damage to organs, including the liver and kidneys, due to its toxic properties. |
| **Aggravation of pre-existing conditions:** | may aggravate pre-existing conditions such as respiratory disorders, skin conditions, and neurological disorders, potentially worsening symptoms due to its toxic and irritant properties. |

## SECTION 3: Composition/information on ingredients

| | |
|---|---|
| **3.1 Chemical characterisation:** | Substances |
| **CAS No:** | Description: 109-77-3 MALONONITRILE |
| **Identification number(s):** | EC number: 203-703-2 |

## SECTION 4: First aid measures

| | |
|---|---|
| **4.1 Description of first aid measures** | |
| **General information:** | |
| **After inhalation:** | If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. |
| **After skin contact:** | Remove contaminated clothing. Wash with soap and water. Consult a physician. |

**Multichem Specialities Pvt. Ltd.**
1215, Dalamal Tower,
Nariman Point, Mumbai 400021, India
T: +91 2243432121
E: multichem@multichemindia.com
**www.multichemindia.com**



| | |
|---|---|
| **After eye contact:** | Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician. |
| **After swallowing:** | Rinse mouth with water. Immediately after ingestion. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician. |
| **4.2 Most important symptoms and effects, both acute and delayed:** | Acute exposure can cause fatal symptoms such as respiratory distress, skin and eye irritation, and nausea, while delayed effects may include neurological damage and organ dysfunction with prolonged or repeated exposure. |
| **4.3 Indication of any immediate medical attention and special treatment needed:** | Treat symptomatically. |

## SECTION 5: Firefighting measures

| | |
|---|---|
| **5.1 Extinguishing media:** | Carbon dioxide. Water spray. Alcohol-resistant foam. |
| **5.2 Special hazards arising from the substance or mixture:** | release toxic fumes such as hydrogen cyanide when heated. |
| **5.3 Advice for firefighters:** | Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety. |
| **5.4 further information:** | no data available |

**Multichem Specialities Pvt. Ltd.**
1215, Dalamal Tower,
Nariman Point, Mumbai 400021, India
T: +91 2243432121
E: multichem@multichemindia.com
**www.multichemindia.com**



## SECTION 6: Accidental release measures

| | |
|---|---|
| **6.1 Personal precautions, protective equipment and emergency procedures:** | Use personal protective equipment.<br>Avoid breathing vapors, mist or gas. Ensure adequate ventilation.<br>Remove all sources of ignition.<br>Evacuate personnel to safe areas.<br>Beware of vapours accumulating to form explosive concentrations.<br>Avoid dust accumulation. Seek medical attention. |
| **6.2 Environmental precautions:** | Do not enter this chemical into drains. |
| **6.3 Methods and material for containment and cleaning up:** | Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone.<br>Scoop absorbed substance into closing containers. Spill must not return in its original container.<br>Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. |

## SECTION 7: Handling and storage

| | |
|---|---|
| **7.1 Precautions for safe handling:** | For use in are with adequate ventilation.<br>Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material<br>Do not use in confined spaces.<br>Electrostatic discharge protection.<br>Minimize dust generation and accumulation.<br>Avoid ingestion and inhalation. |
| **7.2 Conditions for safe storage, including any incompatibilities:** | Store in original containers.<br>Keep containers securely sealed<br>Store in a cool, dry, well-ventilated area. |

| | |
|---|---|
| | Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area. |
| **Requirements to be met by storerooms and receptacles:** | 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. |
| **7.3 Specific end uses:** | no data available |

## SECTION 8: Exposure controls/personal protection

| | |
|---|---|
| **8.1 Control parameters** | |
| **Additional information about design of technical facilities:** | A system of local and general exhaust is recommended. |
| **8.2 Exposure controls** | |
| **Appropriate engineering controls** | Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. |
| **Personal protective equipment:** | Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc. |
| **General protective and hygienic measures:** | Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment. |
| | **Respiratory protection:** Required. |
| **Protection of hands:** | Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands. |

| | |
|---|---|
| | **Eye protection:** Required |
| **Protection of Body:** | Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. |

## SECTION 9: Physical and chemical properties

| **9.1 Information on basic physical and chemical properties General Information** | |
|---|---|
| **Appearance: Form:** | Colorless liquid or crystalline solid |
| **Colour:** | Colourless |
| **Odour:** | Bitter almond |
| **pH-value:** | No data available |
| **Melting point/Melting range:** | 14°C |
| **Boiling point/Boiling range:** | 141°C |
| **Flammability (solid, gaseous):** | Flammable |
| **Ignition temperature:** | 455°C |
| **Decomposition temperature:** | No data available |
| **Self-igniting:** | Not applicable |
| **Flash point:** | 74°C |
| **Danger of explosion:** | None |
| **Explosion limits: Lower:** | 3.0% |
| **Explosion limits: Upper:** | 19.0% |
| **Vapour pressure:** | 3.6 mmHg at 20°C |
| **Density at 20 °C:** | 1.26 g/cm$^3$ |
| **Relative density:** | 1.26 |
| **Vapour density:** | 2.8 |
| **Evaporation rate:** | Moderate |
| **Solubility in / Miscibility with- ·water at 20 °C:** | Highly soluble |
| **Partition coefficient:(n-octanol/water)** | 0.63 |
| **Viscosity:** | 0.5cP at 20°C |

**Multichem Specialities Pvt. Ltd.**
1215, Dalamal Tower,
Nariman Point, Mumbai 400021, India
T: +91 2243432121
E: multichem@multichemindia.com
**www.multichemindia.com**



## SECTION 10: Stability and reactivity

| | |
|---|---|
| **10.1 Reactivity** | No reaction under storage conditions. |
| **10.2 Chemical stability** | This chemical is stable under storage conditions. |
| **10.3 Possibility of hazardous reactions** | Polymerization, Exothermic Reactions, Reaction with Strong Oxidizing Agents, Reaction with Bases. |
| **10.4 Conditions to avoid** | Heat, Open Flames, Moisture, Light. |
| **10.5 Incompatible materials** | Strong oxidizing agents, Strong acids and bases. |
| **10.6 Hazardous decomposition products** | Nitrogen oxides, carbon monoxide, carbon dioxide, Hydrogen Cyanide. |

## SECTION 11: Toxicological information

| | |
|---|---|
| **11.1 Information on toxicological effects** | |
| **Acute Toxicity:** | **LD50** (Oral, Rat): no data available<br>**LD50** (Dermal, Rabbit): no data available<br>**LC50** (Inhalation Rat): no data available |
| **Skin corrosion/Irritation:** | Can cause skin irritation. |
| **Serious eye damage/irritation:** | Causes serious eye irritation. |
| **Respiratory damage/irritation:** | May cause respiratory irritation. |
| **Ingestion:** | Fatal if swallowed. |
| **Germ cell mutagenicity:** | No data available |
| **Carcinogenicity:** | No data available |
| **Reproductive toxicity:** | No data available |
| **Specific target organ toxicity - single exposure:** | No data available |
| **Specific target organ toxicity - repeated exposure:** | No data available |
| **Aspiration hazard:** | No data available |
| **Signs and Symptoms of Exposure:** | Refer section 2.3 |
| **11.2 Additional toxicological information** | |

| | |
|---|---|
| **Biodegradability:** | poorly biodegradable |

## SECTION 12: Ecological information

| | |
|---|---|
| **12.1 Toxicity**<br>**Aquatic toxicity:** | LC50(Pimephales promelas (fathead minnow): 0,56 mg/l (96hr)<br>EC50(daphnia): 21,4 mg/l (24hr)<br>ECr50(algae): no data available |
| **12.2 Persistence and degradability:** | Poorly biodegradable and persistent |
| **12.3 Bioaccumulative potential:** | low bioaccumulative |
| **12.4 Mobility in soil:** | moderate mobility |
| **12.5 Other adverse effects:** | No data available |

## SECTION 13: Disposal considerations

| **13.1 Waste treatment methods** | |
|---|---|
| **Uncleaned packaging**<br>**Recommendation:** | dispose of in accordance with local hazardous waste regulations |
| **Recommended cleansing agents:** | Water, Diluted Sodium Hydroxide, sodium bicarbonate, Activated charcoal, Acetone, ethanol, Mild detergents. |

## SECTION 14: Transport information

| | |
|---|---|
| **14.1 UN-Number · ADR, ADN, IMDG, IATA:** | 2647 |
| **14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:** | MALONONITRILE |
| **14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA** : | 6.1 |
| **14.4 Packing group · ADR, IMDG, IATA:** | 2 |
| **14.5 Environmental hazards:** | Harmful for aquatic life. |
| **14.6 Special precautions for user:** | Handle responsibly. |

**Multichem Specialities Pvt. Ltd.**
1215, Dalamal Tower,
Nariman Point, Mumbai 400021, India
T: +91 2243432121
E: multichem@multichemindia.com
**www.multichemindia.com**



## SECTION 15: Regulatory information

| | |
|---|---|
| **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU** | Directive 2012/18/EU, under that this substance is classified in listed substance as flammable liquid. |
| **Named dangerous substances:** | This substance is not listed in the annex 1 to the directive. |
| **15.2 Chemical safety assessment:** | Chemical assessment has not been carried out. |

## SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.