

# Material Safety Data Sheet

## 2,2'-Azobis(2-methylpropionitrile)

### Section 1: Chemical Product and Company Identification

**Product Name:** 2,2'-Azobis(2-methylpropionitrile)

**Chemical Name:** 2,2'-Azobisisobutyronitrile

**CAS No.:** 78-67-1

**EINECS No.:**

**Customs Tariff No:** 29270000

**Synonym Name:**

2,2'-Azobisisobutyronitrile

**Chemical Formula:**C<sub>8</sub>H<sub>12</sub>N<sub>4</sub>

**Contact Information:**

**Chemtrade International**

Rm. 201, Unit 3, Building 8, Shijia Garden, No. 93,  
Xiangjiang Road, Qingdao Development Zone,  
Qingdao, Shandong, China 266555

**International Sales:**

**Tel:** 0086-532-86893005

**Fax:** 0086-532-86893005

### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS No.	EINECS No.	by weight%
2,2'-Azobisisobutyronitrile	78-67-1		99

**Toxicological Data on Ingredients:** 2,2'-Azobis(2-methylpropionitrile): ORAL (LD50): Acute: 100 mg/kg [Rat].

### Section 3: Hazards Identification

**Potential Acute Health Effects:**

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant). Hazardous in case of skin contact (permeator), of ingestion, . Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

**Potential Chronic Health Effects:**

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

### Section 4: First Aid Measures

**Eye Contact:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

**Skin Contact:**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Serious Skin Contact:**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Serious Inhalation:**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

**Ingestion:**

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Serious Ingestion:** Not available.

### Section 5: Fire and Explosion Data

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** 260°C (500°F)

**Flash Points:** Not available.

**Flammable Limits:** Not available.

**Products of Combustion:** These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub>...).

**Fire Hazards in Presence of Various Substances:** Flammable in presence of shocks, of heat.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:**

Flammable solid.

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

### Section 6: Accidental Release Measures

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill:**

Flammable solid. Poisonous solid.

Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

### Section 7: Handling and Storage

**Precautions:**

Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

**Storage:**

Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

### Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:**

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

### Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid.  
**Odor:** Not available.  
**Taste:** Not available.  
**Molecular Weight:** 164.21 g/mole  
**Color:** Not available.  
**PH (1% soln/water):** Not applicable.  
**Boiling Point:** Not available.  
**Melting Point:** 105°C (221°F)  
**Critical Temperature:** Not available.  
**Specific Gravity:** 1.13 (Water = 1)  
**Vapor Pressure:** Not applicable.  
**Vapor Density:** Not available.  
**Volatility:** Not available.  
**Odor Threshold:** Not available.  
**Water/Oil Dist. Coeff.:** Not available.  
**Ionicity (in Water):** Not available.  
**Dispersion Properties:** Not available.  
**Solubility:** Insoluble in cold water.

#### Section 10: Stability and Reactivity Data

**Stability:** The product is stable.  
**Instability Temperature:** 45°C (113°F)  
**Conditions of Instability:** Not available.  
**Incompatibility with various substances:** Not available.  
**Corrosivity:** Non-corrosive in presence of glass.  
**Special Remarks on Reactivity:** Not available.  
**Special Remarks on Corrosivity:** Not available.  
**Polymerization:** Will not occur.

#### Section 11: Toxicological Information

**Routes of Entry:** Dermal contact. Eye contact. Inhalation. Ingestion.  
**Toxicity to Animals:** Acute oral toxicity (LD50): 100 mg/kg [Rat].  
**Chronic Effects on Humans:** Not available.  
**Other Toxic Effects on Humans:**  
Very hazardous in case of skin contact (irritant), of inhalation (lung irritant).  
Hazardous in case of skin contact (permeator), of ingestion, .  
**Special Remarks on Toxicity to Animals:** Not available.  
**Special Remarks on Chronic Effects on Humans:** Not available.  
**Special Remarks on other Toxic Effects on Humans:** Not available.

#### Section 12: Ecological Information

**Ecotoxicity:** Not available.  
**BOD5 and COD:** Not available.  
**Products of Biodegradation:**  
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.  
**Toxicity of the Products of Biodegradation:** The products of degradation are more toxic.  
**Special Remarks on the Products of Biodegradation:** Not available.

#### Section 13: Disposal Considerations

**Waste Disposal:** No Information

#### Section 14: Transport Information

**DOT Classification:** CLASS 4.1: Flammable solid.

**Identification:** : Self-reactive solid type c, temperature controlled [(2,2'-Azobisisobutyronitrile)] UNNA: UN1325  
PG: II

**Special Provisions for Transport:** Not available.

### Section 15: Other Regulatory Information

**Federal and State Regulations:**

Pennsylvania RTK: 2,2'-Azobis(2-methylpropionitrile)

Florida: 2,2'-Azobis(2-methylpropionitrile)

Massachusetts RTK: 2,2'-Azobis(2-methylpropionitrile)

New Jersey: 2,2'-Azobis(2-methylpropionitrile)

TSCA 8(b) inventory: 2,2'-Azobis(2-methylpropionitrile)

**Other Regulations:**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications:**

**WHMIS (Canada):**

CLASS B-4: Flammable solid.

CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).

CLASS D-2B: Material causing other toxic effects (TOXIC).

**DSCL (EEC):**

R11- Highly flammable.

R25- Toxic if swallowed.

R37/38- Irritating to respiratory system and skin.

R41- Risk of serious damage to eyes.

**HMIS (U.S.A.):**

**Health Hazard:** 3

**Fire Hazard:** 2

**Reactivity:** 2

**Personal Protection:** E

**National Fire Protection Association (U.S.A.):**

**Health:** 3

**Flammability:** 2

**Reactivity:** 2

**Specific hazard:**

**Protective Equipment:**

Gloves.

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

### Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

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