

a,a'-Azoisobutyronitrile  
CAS No 78-67-1

**MATERIAL SAFETY DATA SHEET  
SDS/MSDS**

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifiers**

Product name : a,a'-Azoisobutyronitrile

CAS-No. : 78-67-1

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Industrial & for professional use only.

**1.3 Details of the supplier of the safety data sheet**

Company : Pallav Chemicals & Solvents Pvt. Ltd  
253, Shiv Shakti Industrial Estate, Opp Mittal Estate  
Andheri Kurla Road, Andheri (E), Mumbai - 400050  
INDIA

Telephone : +91 22 4928 4000

Email : [sales@pallavchemicals.com](mailto:sales@pallavchemicals.com)

**1.4 Emergency telephone number**

Emergency Phone # : +91 22 4928 4000 (9:00am - 6:00 pm) [Office hours]

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008**

Self reactive substances (Type C), H242

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 Label elements**

**Labelling according Regulation (EC) No 1272/2008**

Pictogram

Signal word : Danger

Hazard statement(s)

H242

Heating may cause a fire.

H302 + H332

Harmful if swallowed or if inhaled

H412

Harmful to aquatic life with long lasting effects.

Precautionary statement(s)  
P273 Avoid release to the environment.  
Supplemental Hazard Statements none

### 2.3 Other hazards - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : AIBN  
Azobisisobutyronitrile  $\alpha,\alpha'$ -  
Azoisobutyronitrile

Formula : C<sub>8</sub>H<sub>12</sub>N<sub>4</sub>  
Molecular weight : 164.21 g/mol  
CAS-No. : 78-67-1  
EC-No. : 201-132-3  
Index-No. : 608-019-00-1

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
<b>2,2'-Dimethyl-2,2'-azodipropionitrile</b>		
CAS-No. 78-67-1	Self-react. C; Acute Tox. 4;	<= 100 %
EC-No. 201-132-3	Aquatic Chronic 3; H242,	
Index-No. 608-019-00-1	H302, H332, H412	

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### 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. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2 .2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

- 5.2 Special hazards arising from the substance or mixture** Carbon oxides, Nitrogen oxides (NOx)
- 5.3 Advice for firefighters**  
Wear self-contained breathing apparatus for firefighting if necessary.
- 5.4 Further information**  
Use water spray to cool unopened containers.

## **SECTION 6: Accidental release measures**

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
- 6.2 Environmental precautions**  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- 6.3 Methods and materials for containment and cleaning up**  
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).
- 6.4 Reference to other sections**  
For disposal see section 13.

## **SECTION 7: Handling and storage**

- 7.1 Precautions for safe handling**  
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.  
Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition.  
For precautions see section 2.2.
- 7.2 Conditions for safe storage, including any incompatibilities**  
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.  
Recommended storage temperature 2 - 8 °C  
Store under inert gas. Handle and open container with care. Air and light sensitive.
- 7.3 Specific end use(s)**  
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## **SECTION 8: Exposure controls/personal protection**

- 8.1 Control parameters**
- 8.2 Exposure controls**
- Appropriate engineering controls**  
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.
- Personal protective equipment**
- Eye/face protection**  
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- Skin protection**  
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 and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If th full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |   |  |
|---|--|
| a) Appearance                                   | Form: crystalline<br>Colour: white             |
| b) Odour  | none   |
| c) Odour Threshold                              | No data available                              |
| d) pH   | No data available                              |
| e) Melting point/freezing point                 | Melting point/range: 102 - 104 °C - dec.       |
| f) Initial boiling point and boiling range      | Decomposes below the boiling point.            |
| g) Flash point                                  | No data available                              |
| h) Evaporation rate                             | No data available                              |
| i) Flammability (solid, gas)                    | No data available                              |
| j) Upper/lower flammability or explosive limits | No data available                              |
| k) Vapour pressure                              | 0.81 Pa at 25 °C                               |
| l) Vapour density                               | No data available                              |
| m) Relative density                             | 1.11 g/cm <sup>3</sup>                         |
| n) Water solubility                             | 350 g/l at 25 °C                               |
| o) Partition coefficient: n-octanol/water       | log Pow: 1.1 at 25 °C                          |
| p) Auto-ignition temperature                    | No data available                              |
| q) Decomposition temperature                    | Type C   |
| r) Viscosity                                    | No data available                              |
| s) Explosive properties                         | Risk of explosion if heated under confinement. |
| t) Oxidizing properties                         | No data available                              |

### **9.2 Other safety information**

No data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

Aldehydes, Strong oxidizing agents, Alcohols, Alkali metals, Heptane, Contamination, Acetone

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)  
Other decomposition products - No data available  
In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 100 mg/kg(2,2'-Dimethyl-2,2'-azodipropionitrile)

Remarks: Behavioral:General anesthetic. Behavioral:Somnolence (general depressed activity).  
Behavioral:Ataxia.

LC50 Inhalation - Rat - 1 h - > 7.780 mg/l(2,2'-Dimethyl-2,2'-azodipropionitrile)

#### Skin corrosion/irritation

No data available(2,2'-Dimethyl-2,2'-azodipropionitrile)

#### Serious eye damage/eye irritation

No data available(2,2'-Dimethyl-2,2'-azodipropionitrile)

#### Respiratory or skin sensitisation

No data available(2,2'-Dimethyl-2,2'-azodipropionitrile)

#### Germ cell mutagenicity

No data available(2,2'-Dimethyl-2,2'-azodipropionitrile)

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### Reproductive toxicity

No data available(2,2'-Dimethyl-2,2'-azodipropionitrile)

#### Specific target organ toxicity - single exposure

No data available(2,2'-Dimethyl-2,2'-azodipropionitrile)

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available(2,2'-Dimethyl-2,2'-azodipropionitrile)

#### Additional Information

RTECS: UG0800000

Nausea, Dizziness, Headache, Drowsiness, Unconsciousness, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(2,2'-Dimethyl-2,2'-azodipropionitrile)

## SECTION 12: Ecological information

### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available(2,2'-Dimethyl-2,2'-azodipropionitrile)

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

Harmful to aquatic life with long lasting effects.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Contaminated packaging

Dispose of as unused product.

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 3234

IMDG: 3234

IATA: 3234

### 14.2 UN proper shipping name

ADR/RID: SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED (2,2'-AZODI(ISOBUTYRONITRILE)) (2,2'-Dimethyl-2,2'-azodipropionitrile)

IMDG: SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED (2,2'-AZODI(ISOBUTYRONITRILE)) (2,2'-Dimethyl-2,2'-azodipropionitrile)

IATA: Self-reactive solid type C, temperature controlled (2,2'-Azodi (Isobutyronitrile)) (2,2'-Dimethyl-2,2'-azodipropionitrile)

Passenger Aircraft: Not permitted for transport

Cargo Aircraft: Not permitted for transport

### 14.3 Transport hazard class(es)

ADR/RID: 4.1

IMDG: 4.1

IATA: 4.1

### 14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

### 14.6 Special precautions for user

No data available

## SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture** This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

## SECTION 16: Other information

### Full text of H-Statements referred to under sections 2 and 3.

H242	Heating may cause a fire.
H302	Harmful if swallowed.
H302 + H332	Harmful if swallowed or if inhaled
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.

### Further information

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. Pallav Chemicals & Solvents Pvt. Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.pallavchemicals.com](http://www.pallavchemicals.com) for additional terms and conditions of sale.