

## 1: Identification of substance / mixture

### 1. Product Identifier

### Substance

Product Name **2,2'-Azobis(2-methylpropionitrile)**  
Product Code 069278  
CAS Number 78-67-1  
Other Names 2,2'-Azodiisobutyronitrile  
2,2'-Dimethyl-2,2'-azodipropionitrile  
IUPAC  
MFCD Number MFCD00013808  
EC/EINECS 201-132-3  
REACH Number

Index-No

### 2. Relevant identified uses of the substance or mixture and uses advised against

Research and Development

### 3. Details of the supplier of the safety data sheet

Fluorochem Ltd  
Unit 14, Graphite Way  
Hadfield  
Derbyshire  
SK13 1QH  
UK

Telephone: +44(0)1457 860111  
Fax: +44(0)1457 892799  
Email: sds@fluorochem.co.uk



### 4. Emergency telephone number

+44(0)7855 268577 -

## 2. Hazards Identification

### 1. Classification of the substance or mixture

H242	Self-react. C	
H302	Acute Tox. 4	
H312	Acute Tox. 4	
H332	Acute Tox. 4	
H412	Aquatic Chronic 3	

### 2. Label elements

Signal Word **Danger**



### Hazard Statements

H242	Heating may cause a fire.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.

### Precautionary Phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

### 3. Other Hazards

Additional precautionary phrases are located throughout the safety data sheet

## 3. Composition / Information on Ingredients

### 1. Substances

Product Name	Hazards	Concentration
2,2'-Azobis(2-methylpropionitrile)		
CAS Number: 78-67-1 EC/EINECS: 201-132-3	H242, H302, H312, H332, H412 Acute Tox. 4, Aquatic Chronic 3, Self-react. C	<=100%

## 4. First Aid Measures

### 1. Description of first aid measures

<i>Skin Contact</i>	P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
<i>Eye Contact</i>	Rinse opened eye for several minutes under running water.
<i>Ingestion</i>	Consult a doctor. If unconscious and breathing is OK, place in the recovery position.
<i>Inhalation</i>	P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

### 2. Most important symptoms and effects

There may be irritation and redness.

### 3. Indication of any immediate medical attention

No additional measures required

## 5. Firefighting measures

### 1. Extinguishing Media

<i>Suitable</i>	Carbon dioxide. Dry chemical powder.
<i>Unsuitable</i>	no data

### 2. Special Hazards arising from the substance or mixture

Dry product catches fire easily on contact with a flame or electric spark/discharge.  
Dust may form explosive mixture in the atmosphere if concentrations are higher than 0.02 kg/m<sup>3</sup>.  
Thermal decomposition giving flammable and toxic products : Nitrogen, Tetramethylsuccinic acid dinitrile

### 3. Advice for Fire Fighters

Wear self-contained breathing apparatus.  
Wear protective clothing to prevent contact with skin and eyes.  
Ensure a system for the rapid emptying of containers.  
In case of fire, remove exposed containers.

## 6. Accidental Release Measures

### 1. Personal Precautions

Do not attempt to take action without suitable protective clothing – see section 8 of SDS.  
Remove all incompatible materials as outlined in section 10 of SDS.

### 2. Environmental Precautions

Do not discharge into drains or rivers.  
Contain the spillage using bunding.

### 3. Methods & Materials

Mix with sand or vermiculite.  
Transfer to a closable, labelled salvage container for disposal by an appropriate method.

### 4. Preventing the occurrence of secondary hazards.

No Special Measures Required

## 7. Handling and Storage

### 1. Personal Precautions

*Safe Handling* Ensure there is sufficient ventilation of the area.  
P264: Wash hands thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P273: Avoid release to the environment.

*Protection against explosions and fires* P363: Wash contaminated clothing before reuse.

### 2. Conditions for safe storage, including any incompatibilities

*Managing Storage Risks* Store under inert gas.  
Refrigerate.

*Storage Controls* P403 + P235: Store in a well-ventilated place. Keep cool.  
No special requirements

*Maintaining Integrity* P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.  
P234: Keep only in original container.  
Keep in tightly closed container in cool area away from direct sunlight or heat sources.

*Other advice* no further information available

### 3. Specific End Uses

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

## 8. Exposure Controls/Personal Protection

### 1. Control Parameters

No Data Available

### 2. Exposure Controls

*General protective and hygiene measures* P280: Wear protective gloves/protective clothing/eye protection/face protection.  
Wash hands during breaks and at the end of handling the material  
Immediately remove any contaminated clothing

*Engineering measures* Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

*Eye / Face Protection* Safety Glasses with side-shields.

*Hand protection* Protective gloves.

*Respiratory protection* P261: Avoid breathing dust/fume/gas/mist/vapours/spray.  
Use breathing protection with high concentrations

*Skin protection* Handle with gloves.  
Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practice.  
Wash and dry hands.  
Protective clothing.

*Other personal protection advice* no data

## 9. Physical and Chemical Properties

### 1. Physical and Chemical Properties

Appearance	Solid
Odour	No Data Available

Odour threshold	No Data Available
PH	No Data Available
Melting point / Freezing point	102-104°C
Initial boiling point and boiling range	No Data Available
Flash point	No Data Available
Evaporation rate	No Data Available
Flammability(solid,gas)	No Data Available
Upper/lower flammability or explosive limits	No Data Available
Vapour pressure	0.81 Pa @ 25°C
Vapour density	No Data Available
Relative density	1.098
Solubility(ies):	Ether. Alcohols.
Partition coefficient: n-octanol/water	1.1 @ 25°C
Auto-ignition temperature	64°C
Decomposition temperature	No Data Available
Viscosity	No Data Available
Explosive properties	Risk of explosion sources of ignition
Oxidising properties	No Data Available

## 2. Other Information

Insoluble in water - 317.8 mg/L @ 20°C

## 10. Stability and Reactivity

### 1. Reactivity

no unusual reactivity

### 2. Stability

Stable under normal conditions.

### 3. Possibility of Hazardous Reactions

Heating may cause a fire.

### 4. Conditions to Avoid

Heat and light sensitive.  
Heat, flames and sparks

### 5. Incompatible Materials

Oxidising agents.  
Ketones  
Aldehydes  
Alcohols  
Alkali metals  
Heptane  
Contamination  
Acetone.

### 6. Hazardous Decomposition Products

In combustion emits toxic fumes of carbon dioxide / carbon monoxide.  
In combustion emits toxic fumes of nitrogen oxides.  
In combustion emits toxic fumes of hydrogen cyanide.  
In combustion emits toxic fumes of Tetramethylsuccinic acid dinitrile

## 11. Toxicology information

### 1. Information

<i>Acute Toxicity</i>	Oral LD50 (rat - female) >300 - <2000mg/kg Inhalation LC50 (rat) >7.78mg/l/1 h
<i>Skin corrosion/irritation</i>	irritant for skin and mucous membranes
<i>Serious eye Damage/irritation</i>	irritant effect

<i>Respiratory or skin sensitisation</i>	No sensitizing effect known
<i>Germ Cell mutagenicity</i>	not known
<i>Carcinogenicity</i>	not known
<i>Reproductive toxicity</i>	not known
<i>STOT-single exposure</i>	not known
<i>STOT-repeated exposure</i>	not known
<i>Aspiration hazard</i>	not known

## 2. Additional

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.  
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH

## 12. Ecological Information

### 1. Toxicity

not known

### 2. Persistence and degradability

not known

### 3. Bio-Accumulative Potential

not known

### 4. Mobility and Soil

Log Pow: 1.1 @ 25°C

### 5. Results of PBT & vPvB assessment

not known

### 6. Other adverse effects

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.  
Harmful to aquatic life with long lasting effects.

## 13. Disposal Considerations


### 1. Waste Treatment Methods

*Disposal Operations*


*Disposal of Packaging* Disposal must be made according to official regulations.

## 14. Transport Information


### Air (ICAO)

1. **UN Number:** 3234
2. **Shipping Name:** Self-reactive solid type C, temperature controlled
3. **Transport hazard class(es):** : 4.1 Sub Class :  

4. **Packing group:**
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

## Road (ADR)

1. **UN Number:** 3234
  2. **Shipping Name:** SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED
  3. **Transport hazard class(es):** : 4 Sub Class :
- 
4. **Packing group:**
  5. **Environmental hazards:**
  6. **Special Precautions for user:**
  7. **Transport in bulk:**

## Sea (IMDG)

1. **UN Number:** 3234
  2. **Shipping Name:** Self-reactive solid type C, temperature controlled
  3. **Transport hazard class(es):** : 4.1 Sub Class :
- 
4. **Packing group:**
  5. **Environmental hazards:**
  6. **Special Precautions for user:**
  7. **Transport in bulk:**

## 15. Safety, health, environmental and national regulations

### 1. Safety, health, environmental and national regulations:

product is not subject to any additional regulations or provisions

### 2. Safety Assessment

No Chemical Safety Assessment

## 16. Other Information

### 1. Other Information:

ADR: Accord Européen sur le transport des marchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)  
RID:Règlement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association  
ICAO:International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the ICAO  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
CAS:Chemical Abstracts Service

### 3. Disclaimer

The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process, is the responsibility of the user.