

MATERIAL SAFETY DATA SHEET

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Version 1.3

Section 1 - Product and Company Information

Product Name	2,2'-AZOBISISOBUTYRONITRILE, 98%
Product Number	441090
Brand	ALDRICH
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
2,2'-AZOBIS(2-METHYLPROPIONITRILE)	78-67-1	No
Formula	C8H12N4	
Synonyms	Aceto AZIB * AIBN * Azobisisobutylonitrile * Azobisisobutyronitrile * alpha,alpha'-Azobisisobutylonitrile * 2,2'-Azobis(isobutyronitrile) * 2,2'-Azobis(2-methylpropionitrile) * alpha,alpha'-Azodiisobutyronitrile * 2,2'-Azodiisobutyronitrile * 2,2'-Dicyano-2,2'-azopropane * Poly-Zole AZDN * Porofor 57 * Porophor N * VAZO 64	
RTECS Number:	UG0800000	

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Explosive. Toxic.

Risk of explosion by shock, friction, fire, or other sources of ignition. Highly flammable. Toxic if swallowed. Harmful by inhalation. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Target organ(s): Liver. Kidneys.

HMIS RATING

HEALTH: 2

FLAMMABILITY: 3

REACTIVITY: 3

NFPA RATING

HEALTH: 2

FLAMMABILITY: 3

REACTIVITY: 3

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE

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

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLAMMABLE HAZARDS

Flammable Hazards: Yes

EXPLOSION HAZARDS

May explode when heated. Container explosion may occur under fire conditions.

EXPLOSION DATA

Sensitivity to Mechanical Impact: May be shock-sensitive.

CONDITIONS OF FLAMMABILITY

Vigorously supports combustion.

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Flammable solid. Emits toxic fumes under fire conditions.

Specific Method(s) of Fire Fighting: Use water spray to cool fire-exposed containers.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Keep away from heat, sparks, and open flame.

Unsuitable: Self-heating runaway reaction may occur above 40°

Store at 2-8°C

SPECIAL REQUIREMENTS

Store under inert gas. May develop pressure. Open carefully.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath. Use nonsparking tools.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance

Color: White

Form: Fine crystals

Property

Value

At Temperature or Pressure

Molecular Weight

164.21 AMU

pH

N/A

BP/BP Range

N/A

MP/MP Range

102 °C

Freezing Point

N/A

Vapor Pressure

N/A

Vapor Density

N/A

Saturated Vapor Conc.

N/A

Bulk Density

N/A

Odor Threshold

N/A

Volatile%

N/A

VOC Content

N/A

Water Content

< 2 %

Solvent Content

N/A

Evaporation Rate

N/A

Viscosity

N/A

Surface Tension

N/A

Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Refractive Index	N/A
Optical Rotation	N/A
Miscellaneous Data	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Conditions of Instability: May explode when heated.

Conditions to Avoid: Heat.

Materials to Avoid: Aldehydes, Strong oxidizing agents, Alcohols, Alkali metals, Heptane, Chemical contamination, Acetone.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Tetramethylsuccinonitrile, Hydrogen cyanide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion: Toxic if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Nerves. Liver. Kidneys.

SIGNS AND SYMPTOMS OF EXPOSURE

Exposure can cause: Nausea, dizziness, and headache. Drowsiness. Unconsciousness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral

Rat

100 mg/kg

LD50

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

Intraperitoneal

Rat

25 MG/KG

LD50

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

Oral
Mouse
700 mg/kg
LD50

Intraperitoneal
Mouse
25 MG/KG
LD50

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Self-reactive solid type C,
temperature controlled
UN#: 3234
Class: 4.1
Packing Group: Packing Group II
Hazard Label: Flammable solid
PIH: Not PIH

IATA

Proper Shipping Name: SELF-REACTIVE SOLID TYPE C,
TEMPERATURE CONTROLLED
IATA UN Number: 3234
Hazard Class: 4.1
Not Allowed - Aircraft: Not permitted for air
transport.

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: E Xn
Indication of Danger: Explosive. Harmful.
R: 2 11 20/22 52/53
Risk Statements: Risk of explosion by shock, friction, fire, or other sources of ignition. Highly flammable. Harmful by inhalation and if swallowed. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S: 39 41 47 61
Safety Statements: Wear eye/face protection. In case of fire and/or explosion do not breathe fumes. Keep at temperature not exceeding...°C Avoid release to the environment. Refer to special instructions/safety data sheets.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Explosive. Toxic.
Risk Statements: Risk of explosion by shock, friction, fire, or other sources of ignition. Highly flammable. Toxic if swallowed. Harmful by inhalation. Harmful to aquatic organisms, may cause

long-term adverse effects in the aquatic environment.
Safety Statements: Wear eye/face protection. In case of fire and/or explosion do not breathe fumes. Avoid release to the environment. Refer to special instructions/safety data sheets.
US Statements: Target organ(s): Liver. Kidneys.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
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