

Material Safety Data Sheet

Azobisisobutyronitrile

ACC# 44600

Section 1 - Chemical Product and Company Identification

MSDS Name: Azobisisobutyronitrile

Catalog Numbers: AC105150000, AC105150250, AC105151000, AC105155000

Synonyms: 2,2'-Azobis(isobutyronitrile); Azodiisobutyronitrile; 2,2'-Azobis(2-methylpropanenitrile); Vazo 64.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
78-67-1	2,2'-Azobis(2-methylpropionitrile)	98	201-132-3

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white powder.

Danger! Self-reactive substance. Flammable solid. May become violently reactive or explosive when exposed to heat, shock or friction. Harmful if swallowed, inhaled, or absorbed through the skin. May cause eye, skin, and respiratory tract irritation.

Target Organs: Kidneys, liver.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation. Harmful if absorbed through the skin.

Ingestion: Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage.

Inhalation: May cause respiratory tract irritation. Repeated exposure may cause liver damage. Following inhalation exposure to sub-lethal concentrations of 2,2'-azobis(2-methylpropanenitrile) in rats, histopathologic changes observed two weeks post exposure included hyaline granular degeneration of the kidney tubules and hypotrophy of the thymic medulla.

Chronic: May cause liver and kidney damage.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Exposure to heat may promote violent decomposition. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Flammable solid. May be ignited by heat, sparks, and flame. Self-accelerating decomposition may occur if the temperature is not maintained. Material is sensitive to temperature rises. Above a given "control temperature" they decompose violently and catch fire. May burn violently. Decomposition may be self-accelerated and produce large amounts of gas. Avoid percussion and friction.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: Not applicable.

Autoignition Temperature: 64 deg C (147.20 deg F)

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 3; Instability: 3

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. Use only non-sparking tools and equipment.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Minimize dust generation and accumulation. Material is heat, shock and/or friction sensitive. Use care in handling and storage. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Take precautionary measures against static discharges. Keep container tightly closed. Do not ingest or inhale. Keep away from heat, sparks and flame. Avoid percussion and friction.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Refrigerator/flammables. Store below 20°C.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
2,2'-Azobis(2-methylpropionitrile)	none listed	none listed	none listed

OSHA Vacated PELs: 2,2'-Azobis(2-methylpropionitrile): No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Powder

Appearance: white

Odor: odorless

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 102-105 deg C (dec)

Decomposition Temperature: 105 deg C

Solubility: insoluble

Specific Gravity/Density: 1.11 g/cm³ @ 20°C

Molecular Formula: C₈H₁₂N₄

Molecular Weight: 164.21

Section 10 - Stability and Reactivity

Chemical Stability: Substance is shock sensitive and thermally unstable. Unstable. Can explode on rapid heating or percussion.

Conditions to Avoid: Mechanical shock, ignition sources, excess heat, friction, excess light.

Incompatibilities with Other Materials: Alkalies, aldehydes, ketones.

Hazardous Decomposition Products: Hydrogen cyanide, nitrogen oxides, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 78-67-1: UG0800000

LD50/LC50:

CAS# 78-67-1:

Oral, mouse: LD50 = 700 mg/kg;

Oral, rat: LD50 = 100 mg/kg;

Oral, rat: LD50 = 100-200 mg/kg. (Kodak) I, rat: LD50 = 950 mg/kg. (Merck)

Carcinogenicity:

CAS# 78-67-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Mutagenicity: No data available.

Neurotoxicity: No data available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	SELF-REACTIVE SOLID TYPE C, TEMPERATURE	SELF-REACTIVE SOLID TYPE C
Hazard Class:	4.1	4.1
UN Number:	UN3234	UN3234
Packing Group:	II	II
Additional Info:		TEMPERATURE CONTROLLED

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 78-67-1 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 78-67-1: immediate, fire, sudden release of pressure, reactive.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 78-67-1 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T F E

Risk Phrases:

R 11 Highly flammable.
R 2 Risk of explosion by shock, friction, fire or other sources of ignition.
R 20/21 Harmful by inhalation and in contact with skin.
R 25 Toxic if swallowed.
R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 39 Wear eye/face protection.

S 41 In case of fire and/or explosion do not breathe fumes.
S 61 Avoid release to the environment. Refer to special instructions
/safety data sheets.
S 47B Keep at temperature not exceeding 20°C.

WGK (Water Danger/Protection)

CAS# 78-67-1: 2

Canada - DSL/NDSL

CAS# 78-67-1 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, B4, F.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 5/14/1998

Revision #3 Date: 10/10/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.