

SAFETY DATA SHEET

Issue Date 08-Jun-2026
Revision Number 2.1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name 2,2'-Azobis(isobutyronitrile)

Other means of identification

Product Code(s) 019-04932,013-04935

Recommended use of the chemical and restrictions on use

Recommended Use For research use only.

Uses advised against Seek expert judgment when using for purposes other than those recommended.

Details of the supplier of the safety data sheet**Manufacturer Address**

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2. HAZARDS IDENTIFICATION

GHS classification**Classification of the substance or mixture****Self-reactive substances and mixtures****Acute toxicity - Oral****Specific target organ toxicity (single exposure)**

Category 1 central nervous system

Category 3 Narcotic effects

Specific target organ toxicity (repeated exposure)

Category 2 liver

Type C

Category 3

Category 1, Category 3

Category 2

Pictograms**Signal word**

Danger

Hazard statements

H242 - Heating may cause a fire

H301 - Toxic if swallowed

H336 - May cause drowsiness or dizziness

H370 - Causes damage to the following organs: central nervous system

H373 - May cause damage to the following organs through prolonged or repeated exposure: liver

Precautionary statements-(Prevention)

Do not breathe dust/fume/gas/mist/vapors/spray Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product Use only outdoors or in a well-ventilated area Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking Keep/Store away from clothing/ combustible materials Keep only in original container Wear protective gloves/protective clothing/eye protection/face protection Keep cool

Precautionary statements-(Response)

IF exposed: Call a POISON CENTER or doctor/physician
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician Rinse mouth
 In case of fire: Use suitable extinguishing media for extinction

Precautionary statements-(Storage)

Store in a well-ventilated place. Keep container tightly closed Store locked up Store away from other materials

Precautionary statements-(Disposal)

Dispose of contents/container to an approved waste disposal plant

Others

Other hazards Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula (CH₃)₂C(CN)N:NC(CN)(CH₃)₂

Chemical Name	Molecular weight	CAS RN	Weight-%
2,2'-Azobis(isobutyronitrile)	164.21	78-67-1	98.0

Impurities and/or Additives: Not applicable

4. FIRST AID MEASURES

First aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation Remove to fresh air.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing media

Water. Foam.

Unsuitable Extinguishing media Powder. Carbondioxide. Do not use straight streams.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data

Sensitivity to Mechanical none.

Impact

Sensitivity to Static Discharge none.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods and material for containment and cleaning up Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Container containing the recovered material is distinguished from the other garbage and store in a cool, dark place without sealed until processing. Use a secure tool that does not generate a spark.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures Do not give shock. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use with local exhaust ventilation.

Protective measures Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage conditions Keep container protect from light tightly closed. Store in a cool (2-10 °C) place. Store locked up.

Packaging materials Polyethylene.

Incompatible materials Strong oxidizing agents. Water.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits Not applicable

Personal protective equipment

Respiratory protection Dust mask (JIS T 8151)
Hand protection chemical protective gloves (JIS T 8116)
Eye protection protective eyeglasses or chemical safety goggles (JIS T 8147)
Skin and body protection Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	
Color	white
Appearance	crystals - crystalline powder
Odor	Odorless
pH	no data available
Melting point/freezing point	100 - 103 °C (dec.)
Boiling point, 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	
Upper:	no data available
Lower:	30 mg/L (dust explosion)
Vapour pressure	0.006075 mmHg
Vapour density	no data available
Specific Gravity / Relative density	Approx. 1.1
Solubilities	water : very slightly soluble. acetone : freely soluble . methanol , toluene : soluble . Ethanol : sparingly soluble .
n-Octanol/water partition coefficient:(log Pow)	1.10
Auto-ignition temperature:	213 °C
Decomposition temperature:	50 °C (SADT)
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

Stability

Chemical stability	Stable under recommended normal conditions. Be hydrolyzed by moisture in the air. May be altered by light.
Reactivity	no data available

Hazardous reactions

Decompose at an accelerating pace and discharge nitrogen gas. May cause runaway reaction by heat or sunlight because of self-reactivity. Decompose gradually if stored it higher than 20°C.

Conditions to avoid

Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark, Shock

Incompatible materials

Strong oxidizing agents, Water

Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x)

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
2,2'-Azobis(isobutyronitrile)	100 mg/kg (Rat)	N/A	N/A

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
2,2'-Azobis(isobutyronitrile)	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
2,2'-Azobis(isobutyronitrile)	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
2,2'-Azobis(isobutyronitrile)	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
2,2'-Azobis(isobutyronitrile)	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
2,2'-Azobis(isobutyronitrile)	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagenicity source information
2,2'-Azobis(isobutyronitrile)	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
2,2'-Azobis(isobutyronitrile)	Based on the NITE GHS classification results.

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
2,2'-Azobis(isobutyronitrile)	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
2,2'-Azobis(isobutyronitrile)	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
2,2'-Azobis(isobutyronitrile)	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
2,2'-Azobis(isobutyronitrile)	Based on the NITE GHS classification results.

12. ECOLOGICAL INFORMATION

Ecotoxicity

no data available

Persistence and degradability

No information available

Bioaccumulative potential

No information available

Mobility

no data available

Chemical Name	Partition coefficient
2,2'-Azobis(isobutyronitrile) 78-67-1	1.1

Mobility in soil

No information available

Other Data

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Precautionary including method of disposing contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT

UN/ID No UN3234
 Proper shipping name: Self-reactive solid type C, temperature controlled (2,2'-Azodi(isobutyronitrile))
 UN classification 4.1
 Subsidiary hazard class
 Packing group
 Marine pollutant Not applicable

IATA

UN/ID No UN3234
 Proper shipping name: Self-reactive solid type C, temperature controlled (2,2'-Azodi(isobutyronitrile))
 UN classification 4.1
 Subsidiary hazard class
 Packing group
 Environmentally Hazardous Substance Not applicable

IMDG

UN/ID No UN3234
 Proper shipping name: Self-reactive solid type C, temperature controlled (2,2'-Azodi(isobutyronitrile))
 UN classification 4.1
 Subsidiary hazard class
 Packing group
 Marine pollutant (Sea) Not applicable

15. REGULATORY INFORMATION

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS RN	Weight-%	SARA 313 - Threshold Values %
2,2'-Azobis(isobutyronitrile) - 78-67-1	78-67-1	98.0	N/A

SARA 311/312 Hazard Categories

Acute health hazard No
 Chronic Health Hazard No
 Fire hazard No
 Sudden release of pressure hazard No
 Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and

Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any chemicals regulated by Proposition 65

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
2,2'-Azobis(isobutyronitrile) 78-67-1	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration NumberNot applicable

16. OTHER INFORMATION

Issue Date 08-Jun-2026

Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet