

Chemical Safety Data Sheet

Section 1 IDENTIFICATION

GHS Product identifier: 2,2'-Azobisisobutyronitrile.

Other means of identification: 2,2'-Azobis(2-methylpropionitrile); 2,2'-Dicyano-2,2'-azopropane;
2,2'-Dimethyl-2,2'-azodipropionitrile.

Recommended use of the chemical and restrictions on use: This material can be used as polymerization initiator and can also be used as foaming agent of rubber and plastic.

Supplier's details: /

Emergency phone number: /

Section 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Self-reactive substances and mixtures Category C

Acute toxicity, oral Category 4

Acute toxicity, inhalation Category 4

Hazardous to the aquatic environment, long-term hazard Category 3

GHS Label elements, including precautionary statements:



Signal word: Danger

Hazard statement(s): Heating may cause a fire. Harmful if swallowed. Harmful if inhaled. Harmful to aquatic life with long lasting effects.

Precautionary statement(s):

Prevention:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep only in original packaging. Keep cool. Ground and bond container and receiving equipment. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response:

If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. In case of fire: Use water spray, foam or chemical powder to extinguish.

Storage:

Store in a well-ventilated place. Protect from sunlight. Store at temperatures not exceeding ...°C / ...°F.
Store separately.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification: /

Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration%
2,2'-Azobisisobutyronitrile	78-67-1	99.48%

Section 4 FIRST AID MEASURES

Description of necessary first aid measures

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. Consult a physician.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If Ingestion: Rinse mouth with water. Consult a physician.

Most important symptoms/effects, acute and delayed: /

Indication of immediate medical attention and special treatment needed, if necessary: /

Section 5 FIREFIGHTING MEASURES

Suitable extinguishing media: Use foam, chemical powder or water spray.

Special hazards arising from the chemical: Self-decomposition or self-ignition may be initiated by heat, chemical reaction, friction or impact. The material is particularly sensitive to temperature rises; above a given CONTROL TEMPERATURE, it may decompose violently and catch fire. DO NOT exceed the specified control temperature as self accelerating decomposition will occur. May decompose explosively when heated or involved in fire. May decompose explosively when confined. May burn vigorously; decomposition may be self-accelerating and produce large amounts of gas. Vapours or dusts may form explosive mixtures with air. May REIGNITE after fire is extinguished.

Special protective actions for fire-fighters: Wear full protective clothing plus breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Consider evacuation (or protect in place). Do not approach containers suspected to be hot. Fight fire from a protected position or use unmanned hose holders or monitor nozzles. Cool fire-exposed containers with flooding quantities of water, from a protected location, until well after fire is out. If safe to do so, remove undamaged containers from path of fire.

Section 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: ELIMINATE all ignition sources (no smoking, flares, sparks or flames). Do NOT touch or walk through spilled material.

Environmental precautions: Prevent, by any means available, spillage from entering drains or water course.

Methods and materials for containment and cleaning up: Minor Spills: Absorb with earth, sand or other non-combustible material. Major Spills: Contain or cover with sand, earth or vermiculite. Use only spark-free shovels and explosion proof equipment. Collect recoverable product into labelled containers for recycling. Collect solid residues and seal in labelled drums for disposal. Wash area with water and dike for later disposal; prevent runoff into drains. After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.

Section 7 HANDLING AND STORAGE

Precautions for safe handling: Avoid all personal contact, including inhalation. Wear protective clothing when risk of overexposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. DO NOT allow material to contact humans, exposed food or food utensils. Avoid smoking, naked lights or ignition sources. When handling, DO NOT eat, drink or smoke. Avoid contact with incompatible materials. Keep containers securely sealed when not in use. Avoid physical damage to containers.

Conditions for safe storage, including any incompatibilities: Store in original containers in approved flame-proof area. No smoking, naked lights, heat or ignition sources. DO NOT store in pits, depressions, basements or areas where vapours may be trapped. Keep containers securely sealed. Store away from incompatible materials in a cool, dry, well ventilated area. Protect containers against physical damage and check regularly for leaks. Ensure proper stock-control measures are maintained to prevent prolonged storage of dangerous goods. Observe manufacturer's storage and handling recommendations contained within this SDS.

Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
azodiisobutyronitrile	Azobis(2-methylpropionitrile), 2,2'-	1.5 mg/m ³	16 mg/m ³	130 mg/m ³

Appropriate engineering controls: If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered.

Individual protection measures

Eye/face protection: Safety glasses with side shields. Chemical goggles.

Skin protection: Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber.

Respiratory protection: Type AB-P Filter of sufficient capacity.

Thermal hazards: /

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, colour etc)	White crystal powder.
Odour	/
Odour Threshold	/
pH	/
Melting point/freezing point	/
Initial boiling point and boiling range	/
Flash point	/
Evaporation rate	/
Flammability (solid, gas)	/
Upper/lower flammability or explosive limits	/
Vapour pressure	/
Vapour density	/
Relative density	>1.0
Solubility(ies)	Reacts
Partition coefficient: n-octanol/water	/
Auto-ignition temperature	60°C.
Decomposition temperature	/
Viscosity	/

Section 10 STABILITY AND REACTIVITY

Reactivity: /**Chemical stability:** The material is stable in normal temperature.

Possibility of hazardous reactions: Toxic gases are formed by mixing azo and azido compounds with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidising or reducing agents. Flammable gases are formed by mixing azo and azido compounds with alkali metals. Explosive combination can occur with strong oxidising agents, metal salts, peroxides, and sulfides. Azo, diazo and azido compounds can detonate especially where organic azides have been sensitised by the addition of metal salts or strong acids. Segregate from alcohol, water. Avoid reaction with oxidising agents

Conditions to avoid: Heat, flames and sparks.**Incompatible materials:** Oxidizers and flammable materials.**Hazardous decomposition products:** Carbon dioxide (CO₂), nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.

Section 11 TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure: Inhaled, swallowed, skin, eyes.**Symptoms related to the physical, chemical and toxicological characteristics:** /

Acute health effects: Inhalation of dusts, generated by the material, during the course of normal handling, may be harmful. Accidental ingestion of the material may be harmful. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn).

Chronic health effects: /**Numerical measures of toxicity (such as acute toxicity estimates):**

LD50(Dermal, rat): >2000 mg/kg

Section 12 ECOLOGICAL INFORMATION

Toxicity: Harmful to aquatic life with long lasting effects.
Persistence and degradability: Water/Soil: High. Air: High.
Bioaccumulative potential: LOW (LogKOW = 1.1).
Mobility in soil: LOW (KOC = 50.9).
Other adverse effects: /

Section 13 DISPOSAL CONSIDERATIONS

Disposal methods: Burial in a land-fill specifically licensed to accept chemical. Reuse of broken container is forbidden.

Section 14 TRANSPORT INFORMATION

UN number: 3234.
UN proper shipping name: SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED.
Transport hazard class (es): 4.1.
Packing group, if applicable: /
Environmental hazards: /
Special precautions for user: /

Section 15 REGULATORY INFORMATION

Regulations: This safety data sheet is in compliance with the following national standards: GB 16483-2008, GB 13690-2009, GB/T 15098-2008, GB 18218-2009, GB 15258-2009, GB 6944-2012, GB 190-2009, GB 191-2009, GB 12268-2008, GA 57-1993, GBZ 2-2007 as well as the following national regulations: Dangerous Goods Transport Administrative Regulation, Dangerous Chemicals Safety Administrative Regulation.

Section 16 OTHER INFORMATION

References	UN Recommendations on the Transport of Dangerous Goods Model Regulations UN Globally Harmonized System of Classification and Labelling of Chemicals
Form Date	12-April-2016

Note 1: When products contain two or more hazardous substances, Safety Data Sheets should be prepared based on the risk of the mixture.

Note 2: Manufacturer / supplier should ensure the correctness of the information contained in the safety data sheets, and updated in a timely manner.

Note 3: As a result of product features without the existence of certain information or no data available (such as boiling point does not exist for the solid) in the table with "/" logo.