



# SAFETY DATA SHEET

**MATERION**

## 1. Identification

<b>Product identifier</b>	<b>Barium Nitride (Ba<sub>3</sub>N<sub>2</sub>)</b>	
<b>Other means of identification</b>		
SDS number	1CN	
Materion Code	1CN	
CAS number	12047-79-9	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>		
<b>Company name</b>	Materion Advanced Chemicals Inc.	
<b>Address</b>	407 N 13th Street 1316 W. St. Paul Avenue Milwaukee, WI 53233 United States	
<b>Telephone</b>	414.212.0257	
<b>E-mail</b>	advancedmaterials@materion.com	
<b>Contact person</b>	Laura Hamilton	
<b>Emergency phone number</b>	Chemtrec	800.424.9300

## 2. Hazard(s) identification

<b>Physical hazards</b>	Substances and mixtures which, in contact with water, emit flammable gases	Category 1
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
<b>Environmental hazards</b>	Not classified.	
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Danger	
<b>Hazard statement</b>	In contact with water releases flammable gases which may ignite spontaneously. Harmful if swallowed. Harmful if inhaled.	
<b>Precautionary statement</b>		
<b>Prevention</b>	Do not allow contact with water. Handle under inert gas. Protect from moisture. Avoid breathing dust/fume. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection/face protection.	
<b>Response</b>	If swallowed: Call a poison center/doctor if you feel unwell. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor. Rinse mouth. Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.	
<b>Storage</b>	Store in a dry place. Store in a closed container.	
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.	
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.	
<b>Supplemental information</b>	None.	

### 3. Composition/information on ingredients

#### Substances

Chemical name	Common name and synonyms	CAS number	%
Barium nitride		12047-79-9	100

### 4. First-aid measures

<b>Inhalation</b>	If dust from the material is inhaled, remove the affected person immediately to fresh air. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Skin contact</b>	Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Rinse skin with water/shower. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Get medical advice/attention if you feel unwell. Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Dry chemical, carbon dioxide.
<b>Unsuitable extinguishing media</b>	Water. Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	In contact with water releases flammable gases which may ignite spontaneously.
<b>Special protective equipment and precautions for firefighters</b>	Wear suitable protective equipment.
<b>Fire fighting equipment/instructions</b>	If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. In the event of fire, cool tanks with water spray. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Do not get water inside container.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Local authorities should be advised if significant spillages cannot be contained. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust from the spilled material. Ventilate closed spaces before entering them.
<b>Methods and materials for containment and cleaning up</b>	Do not get water on spilled substance or inside containers. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid the generation of dusts during clean-up. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

**Environmental precautions**

Avoid discharge into drains, water courses or onto the ground.

**7. Handling and storage****Precautions for safe handling**

Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Avoid dust formation. Guard against dust accumulation of this material. Provide appropriate exhaust ventilation at places where dust is formed. All equipment used when handling the product must be grounded. Do not breathe dust from this material. Do not taste or swallow. Avoid contact with skin and eyes. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. In case of insufficient ventilation, wear suitable respiratory equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Practice good housekeeping. Avoid contact with moist air. Handle under inert gas atmosphere.

**Conditions for safe storage, including any incompatibilities**

Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store in a dry place. Never allow product to get in contact with water during storage. Avoid dust formation. Guard against dust accumulation of this material. Keep out of the reach of children. Keep in an area equipped with sprinklers. Material should be stored under an inert atmosphere.

**8. Exposure controls/personal protection****Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Material	Type	Value
Barium nitride (CAS 12047-79-9)	PEL	0.5 mg/m3

**US. ACGIH Threshold Limit Values**

Material	Type	Value
Barium nitride (CAS 12047-79-9)	TWA	0.5 mg/m3

**US. NIOSH: Pocket Guide to Chemical Hazards**

Material	Type	Value
Barium nitride (CAS 12047-79-9)	TWA	0.5 mg/m3

**US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants**

Material	Type	Value
Barium nitride (CAS 12047-79-9)	PEL	0.5 mg/m3

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear eye/face protection. Use tight fitting goggles if dust is generated.

**Skin protection****Hand protection**

Not normally needed.

**Other**

Wear suitable protective clothing. Wear protective gloves.

**Respiratory protection**

Wear respirator with dust filter. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

**Thermal hazards**

Not available.

**General hygiene considerations** When using, do not eat, drink or smoke. Do not breathe dust. Avoid contact with eyes. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Appearance</b>	Powder.
<b>Physical state</b>	Solid.
<b>Form</b>	Solid. Powder
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Flammable solid.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Molecular formula</b>	Ba <sub>3</sub> N <sub>2</sub>
<b>Molecular weight</b>	440 g/mol

## 10. Stability and reactivity

<b>Reactivity</b>	Not available.
<b>Chemical stability</b>	Risk of ignition. Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Avoid spread of dust. Moisture. Contact with water liberates flammable gas.
<b>Incompatible materials</b>	None known.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Due to lack of data the classification is not possible.
Eye contact	Due to lack of data the classification is not possible.
Ingestion	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Not available.

### Information on toxicological effects

Acute toxicity	Harmful if inhaled. Harmful if swallowed.
Skin corrosion/irritation	Due to lack of data the classification is not possible.
Serious eye damage/eye irritation	Dust in the eyes will cause irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Due to lack of data the classification is not possible.
Skin sensitization	Due to lack of data the classification is not possible.
Germ cell mutagenicity	Due to lack of data the classification is not possible.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

#### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Due to lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to lack of data the classification is not possible.
Aspiration hazard	Due to lack of data the classification is not possible.
Chronic effects	Prolonged inhalation may be harmful.

## 12. Ecological information

Ecotoxicity	No ecotoxicity data noted for the ingredient(s).
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	Not available.
Mobility in soil	Not available.
Other adverse effects	Not available.

## 13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazardous waste code	D005: Waste Barium

**Waste from residues / unused products**

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

**DOT**

UN number	UN2813
UN proper shipping name	Water-reactive solid, n.o.s. (Barium nitride)
Transport hazard class(es)	
Class	4.3
Subsidiary risk	-
Label(s)	4.3
Packing group	I
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB4, N40, T9, TP7, TP33
Packaging exceptions	None
Packaging non bulk	211
Packaging bulk	242

**IATA**

UN number	UN2813
UN proper shipping name	Water-reactive solid, n.o.s. (Barium nitride)
Transport hazard class(es)	
Class	4.3
Subsidiary risk	-
Packing group	I
Environmental hazards	No.
ERG Code	4W
Special precautions for user	Not available.
Other information	
Passenger and cargo aircraft	Forbidden
Cargo aircraft only	Allowed with restrictions.

**IMDG**

UN number	UN2813
UN proper shipping name	WATER-REACTIVE SOLID, N.O.S. (Barium nitride)
Transport hazard class(es)	
Class	4.3
Subsidiary risk	-
Packing group	I
Environmental hazards	
Marine pollutant	No.
EmS	F-G, S-N
Special precautions for user	Not available.

DOT



IATA; IMDG



### 15. Regulatory information

**US federal regulations** All components are on the U.S. EPA TSCA Inventory List.

**Toxic Substances Control Act (TSCA)**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Barium nitride (CAS 12047-79-9) Listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** In contact with water emits flammable gas  
Acute toxicity (any route of exposure)

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Barium nitride	12047-79-9	100

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

## 16. Other information, including date of preparation or last revision

<b>Issue date</b>	03-12-2019
<b>Version #</b>	01
<b>Further information</b>	Emergency telephone numbers Austria - VergiftungsInformationsZentrale, +431.406.43.43 Belgium - Centre Antipoisons - +070.245.245 Bulgaria - Телефон за спешни случаи / факс, +359.2.9154.409 Cyprus - +357.22405611 Czech Republic - Toxikologické informační středisko, +420.224.919.293 Denmark - Akuthjælp ved forgiftning, +82.12.12.12 Estonia - Mürgistusteabekeskuse, 16662 Finland - Myrkytystietokeskus, +(0)9.471.977 France - numéro ORFILA, +33.(0)1.45.42.59.59 Germany - GLZ-Nord Poisons Centre, +49.(0)551.383.1876 Greece - +30.210.64.79.286 Hungary - Az Egészségügyi Toxikológiai Tájékoztató Szolgálat, +36 1 476 6464 Iceland - +354.591.2000 Ireland - National Poisons Information Centre - +353.01.8092566 Italy - Istituto Superiore di Sanità, 064990.2423 Latvia - Valsts Toksikoloģijas centra Saindēšanās un zāļu informācijas centrs, +371.67042473 Liechtenstein - +423.236.61.95 Lithuania - Neatidėliotina informacija apsinuodijus, +370 5 236 20 52 Luxembourg - +352 42 59 91 600 Malta - 2545 0000 Netherlands - NVIC, 030-2748888 Norway - Giftinformasjonen, 22.59.13.00 Poland - Biuro ds. Substancji Chemicznych, +48 42 2538 424 Portugal - 808.250.143 Romania - Biroul RSI si Informare Toxicologica, 021.318.36.06 Slovakia - NTIC, +421.2.5477.4166 Slovenia - Kemična urad Republike Slovenije + 386.14.00.60.51 Spain - Servicio de Información Toxicológica, + 34.91.562.04.20 Sweden - 112 United Kingdom - not available
<b>References</b>	ACGIH EPA: AQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents
<b>Disclaimer</b>	This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.