# MATERION

# SAFETY DATA SHEET

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name of the substance Barium Boride (BaB6) powder **Identification number** 056-002-00-7 (Index number)

**Synonyms** Barium hexaboride

**Document number** 2G0 **Materion Code** 2GQ

**Issue date** 19-January-2018

**Version number** 

1.2. Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** Not available. Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

**Supplier** 

**Division** 

Materion Advanced Chemicals Inc. Company name

**Address** 407 N. 13th Street

> 1316 W. St. Paul Avenue Milwaukee, WI 53233

**United States** Milwaukee 414.212.0257

**Telephone** e-mail advancedmaterials@materion.com

Noreen Atkinson Contact person

1.4. Emergency telephone

number

#### **SECTION 2: Hazards identification**

#### 2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

#### Classification according to Regulation (EC) No 1272/2008 as amended

**Health hazards** 

Acute toxicity, oral Category 4 H302 - Harmful if swallowed.

Acute toxicity, inhalation Category 4

**Hazard summary** Harmful by inhalation and if swallowed. Harmful if inhaled. Occupational exposure to the

substance or mixture may cause adverse health effects. The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate

could be generated.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

**Contains:** Barium boride

**Hazard pictograms** 



Signal word Warning

**Hazard statements** 

Harmful if swallowed. H302

Harmful if swallowed or if inhaled H302 + H332

**Precautionary statements** 

**Prevention** 

Material name: Barium Boride (BaB6) powder SDS FU P261 Avoid breathing dust/fume. P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area.

Response

P301 + P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.

P330 Rinse mouth.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTRE/doctor if you feel unwell.

**Storage** Store away from incompatible materials.

Disposal

p501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information

100~% of the mixture consists of component(s) of unknown acute dermal toxicity. 100~% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 100~% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment. For further information, please contact the Product Stewardship Department at +1.800.862.4118.

**2.3. Other hazards** The Safety Information Sheet Chemicals of hazardous chemical can be obtained through phone,

email or on the company website. Not a PBT or vPvB substance or mixture.

#### **SECTION 3: Composition/information on ingredients**

#### 3.1. Substances

#### **General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Barium boride	100	12046-08-1 234-965-6	-	056-002-00-7	#
Classification:	Acute Tox. 4;H302				1,A

#### List of abbreviations and symbols that may be used above

DSD: Directive 67/548/EEC. CLP: Regulation No. 1272/2008.

#: This substance has been assigned Union workplace exposure limit(s).

#: This substance has been assigned Community workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. \*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

#### **Composition comments**

The full text for all R- and H-phrases is displayed in section 16. The full text for all H-statements is displayed in section 16.

# **SECTION 4: First aid measures**

**General information** 

In case of shortness of breath, give oxygen. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Keep victim under observation. Keep victim warm.

#### 4.1. Description of first aid measures

**Inhalation** 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.

Call a physician or poison control centre immediately.

**Skin contact**Remove and isolate contaminated clothing and shoes. Wash the skin immediately with soap and

water. Get medical attention if irritation develops and persists. Wash clothing separately before

reuse.

**Eye contact** Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Continue

rinsing. Get medical attention if irritation develops and persists.

**Ingestion** IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Rinse mouth thoroughly.

Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped

with a one-way valve or other proper respiratory medical device.

4.2. Most important symptoms and effects, both acute and delayed

Exposure may cause temporary irritation, redness, or discomfort.

4.3. Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Oxygen, if needed. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

#### **SECTION 5: Firefighting measures**

**General fire hazards** No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing

media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing** 

media

None known.

5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

**Special protective** equipment for firefighters

Wear suitable protective equipment.

Special firefighting

procedures

Use water spray to cool unopened containers.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

#### **SECTION 6: Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

For emergency responders

Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.q. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

# **SECTION 7: Handling and storage**

7.1. Precautions for safe handling

Minimise dust generation and accumulation. Do not taste or swallow. Avoid breathing dust. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

Not available. 7.3. Specific end use(s)

# **SECTION 8: Exposure controls/personal protection**

# 8.1. Control parameters

# **Occupational exposure limits**

Material	ance (GwV), BGBl. II, no. 184/2 Type	Value	Form
Barium boride (CAS 12046-08-1)	MAK	0,5 mg/m3	Inhalable fraction.
12040-00-1)	STEL	2 mg/m3	Inhalable fraction.
Belgium. Exposure Limit Valu	ies.		
Material	Туре	Value	
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3	
Bulgaria. OELs. Regulation N Material	o 13 on protection of workers a Type	gainst risks of exposure to Value	chemical agents at wo
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3	
13/09	e Exposure Limit Values in the V	Workplace (ELVs), Annexes	1 and 2, Narodne Novi
Material	Туре	Value	
Barium boride (CAS 12046-08-1)	MAC	0,5 mg/m3	
Czech Republic. OELs. Govern		M-1	
Material	Туре	Value	
Barium boride (CAS 12046-08-1)	Ceiling	2,5 mg/m3	
120 10 00 1)	TWA	0,5 mg/m3	
	ues Type	Value	
Material Barium boride (CAS 12046-08-1)		0,5 mg/m3	ation No. 293 of 18
Material Barium boride (CAS 12046-08-1) Estonia. OELs. Occupational I September 2001)	<b>Type</b> TLV	0,5 mg/m3	ation No. 293 of 18
Material Barium boride (CAS 12046-08-1) Estonia. OELs. Occupational I September 2001) Material Barium boride (CAS	Type  TLV  Exposure Limits of Hazardous Se	0,5 mg/m3 ubstances. (Annex of Regul	ation No. 293 of 18
Material  Barium boride (CAS 12046-08-1)  Estonia. OELs. Occupational I September 2001)  Material  Barium boride (CAS 12046-08-1)  Finland. Workplace Exposure	Type  TLV  Exposure Limits of Hazardous Se  Type  TWA	0,5 mg/m3  ubstances. (Annex of Regul  Value  0,5 mg/m3	ation No. 293 of 18
Material Barium boride (CAS 12046-08-1) Estonia. OELs. Occupational I September 2001) Material Barium boride (CAS 12046-08-1) Finland. Workplace Exposure	Type  TLV  Exposure Limits of Hazardous So  Type  TWA  Limits  Type	0,5 mg/m3  ubstances. (Annex of Regul  Value  0,5 mg/m3  Value	ation No. 293 of 18
Material Barium boride (CAS 12046-08-1) Estonia. OELs. Occupational I September 2001) Material Barium boride (CAS 12046-08-1) Finland. Workplace Exposure Material Barium boride (CAS	Type  TLV  Exposure Limits of Hazardous Se  Type  TWA	0,5 mg/m3  ubstances. (Annex of Regul  Value  0,5 mg/m3	ation No. 293 of 18
Material  Barium boride (CAS 12046-08-1)  Estonia. OELs. Occupational I September 2001)  Material  Barium boride (CAS 12046-08-1)  Finland. Workplace Exposure Material  Barium boride (CAS 12046-08-1)  France. Threshold Limit Value	Type  TLV  Exposure Limits of Hazardous So  Type  TWA  Limits  Type	0,5 mg/m3  ubstances. (Annex of Regul  Value  0,5 mg/m3  Value  0,5 mg/m3	
Material Barium boride (CAS 12046-08-1) Estonia. OELs. Occupational I September 2001) Material Barium boride (CAS 12046-08-1) Finland. Workplace Exposure Material Barium boride (CAS 12046-08-1) France. Threshold Limit Value Material Barium boride (CAS	Type  TLV  Exposure Limits of Hazardous So  Type  TWA  Limits  Type  TWA  TWA  Exposure Limits  Type  TWA  TWA  TWA  TWA	0,5 mg/m3  ubstances. (Annex of Regul  Value  0,5 mg/m3  Value  0,5 mg/m3  osure to Chemicals in France	
Material  Barium boride (CAS 12046-08-1)  Estonia. OELs. Occupational I September 2001)  Material  Barium boride (CAS 12046-08-1)  Finland. Workplace Exposure Material  Barium boride (CAS 12046-08-1)  France. Threshold Limit Value Material  Barium boride (CAS 12046-08-1)  Germany. DFG MAK List (adv Compounds in the Work Area	Type  TLV  Exposure Limits of Hazardous So  Type  TWA  Limits  Type  TWA  es (VLEP) for Occupational Expo Type  VME  isory OELs). Commission for the	0,5 mg/m3  ubstances. (Annex of Regul  Value  0,5 mg/m3  Value  0,5 mg/m3  osure to Chemicals in France Value  0,5 mg/m3  es Investigation of Health Ha	e, INRS ED 984
Material Barium boride (CAS 12046-08-1) Estonia. OELs. Occupational I September 2001) Material Barium boride (CAS 12046-08-1) Finland. Workplace Exposure Material Barium boride (CAS 12046-08-1) France. Threshold Limit Value Material Barium boride (CAS 12046-08-1) Germany. DFG MAK List (adv Compounds in the Work Area	Type  TLV  Exposure Limits of Hazardous So  Type  TWA  Limits  Type  TWA  es (VLEP) for Occupational Expo Type  VME  isory OELs). Commission for the	0,5 mg/m3  ubstances. (Annex of Regul  Value  0,5 mg/m3  Value  0,5 mg/m3  osure to Chemicals in France Value  0,5 mg/m3	e, INRS ED 984
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Material Barium boride (CAS 12046-08-1) Estonia. OELs. Occupational I September 2001) Material Barium boride (CAS 12046-08-1) Finland. Workplace Exposure Material Barium boride (CAS 12046-08-1) France. Threshold Limit Value Material Barium boride (CAS 12046-08-1) Germany. DFG MAK List (adv Compounds in the Work Area Material Barium boride (CAS 12046-08-1) Germany. TRGS 900, Limit Value Germany. TRGS 900, Limit Value	Type  TLV  Exposure Limits of Hazardous So  Type  TWA  Limits  Type  TWA  es (VLEP) for Occupational Expo Type  VME  isory OELs). Commission for the of (DFG)  Type	0,5 mg/m3  ubstances. (Annex of Regul  Value  0,5 mg/m3  Value  0,5 mg/m3  osure to Chemicals in France Value  0,5 mg/m3  e Investigation of Health Ha  Value  0,5 mg/m3	e, INRS ED 984 nzards of Chemical Form
Material Barium boride (CAS 12046-08-1) Estonia. OELs. Occupational I September 2001) Material Barium boride (CAS 12046-08-1) Finland. Workplace Exposure Material Barium boride (CAS 12046-08-1) France. Threshold Limit Value Material Barium boride (CAS 12046-08-1) Germany. DFG MAK List (adv Compounds in the Work Area Material Barium boride (CAS 12046-08-1) Germany. TRGS 900, Limit Va Material Barium boride (CAS	Type  TLV  Exposure Limits of Hazardous Service  Type  TWA  Limits  Type  TWA  es (VLEP) for Occupational Exportage  Type  VME  isory OELs). Commission for the of (DFG)  Type  TWA  alues in the Ambient Air at the V	0,5 mg/m3  ubstances. (Annex of Regul  Value  0,5 mg/m3  Value  0,5 mg/m3  osure to Chemicals in France Value  0,5 mg/m3  e Investigation of Health Ha  Value  0,5 mg/m3  Value  0,5 mg/m3	e, INRS ED 984  ezards of Chemical Form  Inhalable fraction.
September 2001) Material Barium boride (CAS 12046-08-1) Finland. Workplace Exposure Material Barium boride (CAS 12046-08-1) France. Threshold Limit Value Material Barium boride (CAS 12046-08-1) Germany. DFG MAK List (adv Compounds in the Work Area Material Barium boride (CAS 12046-08-1) Barium boride (CAS	Type  TLV  Exposure Limits of Hazardous Solution  Type  TWA  E Limits  Type  TWA  Es (VLEP) for Occupational Export Type  VME  isory OELs). Commission for the of (DFG)  Type  TWA  Alues in the Ambient Air at the V Type  AGW	0,5 mg/m3  ubstances. (Annex of Regul  Value  0,5 mg/m3  Value  0,5 mg/m3  osure to Chemicals in France Value  0,5 mg/m3  e Investigation of Health Ha  Value  0,5 mg/m3  Value  Value  Value  Value  Value  Value  Value  Value	e, INRS ED 984  ezards of Chemical  Form  Inhalable fraction.  Form

Material	Туре	Value
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3
Iceland. OELs. Regulation 154/19 Material	999 on occupational exposi Type	ure limits Value
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3
Ireland. Occupational Exposure L Material	imits Type	Value
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3
Italy. Occupational Exposure Lim		
Material CAS	Туре	Value
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3
Latvia. OELs. Occupational expos Material	ure limit values of chemica Type	l substances in work environment Value
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3
Lithuania. OELs. Limit Values for		
Material	Туре	Value
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3
Luxembourg. Binding Occupation Material	al exposure limit values (A Type	nnex I), Memorial A Value
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3
	re Limit Values (L.N. 227.	of Occupational Health and Safety Authority Act (CA
424), Schedules I and V) Material	Туре	Value
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3
Netherlands. OELs (binding)		
Material	Туре	Value
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3
Norway. Administrative Norms fo Material	r Contaminants in the Wor Type	kplace Value
Barium boride (CAS	TLV	0,5 mg/m3
12046-08-1)  Poland. MACs. Regulation regardi	na maximum permissible o	concentrations and intensities of harmful factors in t
work environment, Annex 1	-	
Material	Туре	Value
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3
Portugal. OELs. Decree-Law n. 29 Material	0/2001 (Journal of the Re Type	public - 1 Series A, n.266) Value
Barium boride (CAS 12046-08-1)	TWA	0,5 mg/m3
Portugal. VLEs. Norm on occupati Material	onal exposure to chemical Type	agents (NP 1796) Value

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace Material **Type Value** Barium boride (CAS **TWA** 0,5 mg/m3 12046-08-1) Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents **Material** Type **Value** Barium boride (CAS **TWA** 0,5 mg/m3 12046-08-1) Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia) **Material Type Value** Barium boride (CAS **TWA** 0,5 mg/m3 12046-08-1) **Spain. Occupational Exposure Limits Material Type Value** Barium boride (CAS TWA 0,5 mg/m3 12046-08-1) Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7) **Material Form** Value Type Barium boride (CAS **TWA** 0,5 mg/m3 Total dust. 12046-08-1) Switzerland. SUVA Grenzwerte am Arbeitsplatz **Material Value Form Type** Barium boride (CAS **STEL** 4 mg/m3 Inhalable dust. 12046-08-1) TWA 0,5 mg/m3 Inhalable dust. **UK. EH40 Workplace Exposure Limits (WELs) Material Value** Barium boride (CAS TWA 0,5 mg/m3 12046-08-1) EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU **Material Type Value** Barium boride (CAS TWA 0,5 mg/m3 12046-08-1) **Biological limit values** No biological exposure limits noted for the ingredient(s). **Recommended monitoring** Follow standard monitoring procedures. procedures **Derived no effect levels** Not available. (DNELs) **Predicted no effect** Not available. concentrations (PNECs) 8.2. Exposure controls **Appropriate engineering** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should controls be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Individual protection measures, such as personal protective equipment **General information** Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Eye/face protection Wear safety glasses with side shields (or goggles). Skin protection - Hand protection Wear appropriate chemical resistant gloves. - Other Wear chemical protective equipment that is specifically recommended by the manufacturer. Use of

an impervious apron is recommended. It may provide little or no thermal protection. Personal protection equipment should be chosen according to the CEN standards and in discussion with the

supplier of the personal protective equipment.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment. Chemical respirator with

organic vapour cartridge.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**Hygiene measures** Keep away from food and drink. Always observe good personal hygiene measures, such as washing

after handling the material and before eating, drinking, and/or smoking. Routinely wash work

clothing and protective equipment to remove contaminants.

**Environmental exposure** 

controls

Environmental manager must be informed of all major releases.

# **SECTION 9: Physical and chemical properties**

#### 9.1. Information on basic physical and chemical properties

**Appearance** 

Physical stateSolid.FormSolid.

Colour Not available.

Odour Not available.

Odour threshold Not available.

PH Not available.

Melting point/freezing point Not available.

Initial boiling point and Not available.

boiling range

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower

ower Not available.

(%)

Flammability limit -

upper (%)

Not available.

Vapour pressureNot available.Vapour densityNot available.Relative densityNot available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient Not available.

(n-octanol/water)

Auto-ignition temperatureNot available.Decomposition temperatureNot available.ViscosityNot available.Explosive propertiesNot explosive.Oxidising propertiesNot oxidising.

9.2. Other information

Molecular formula B6Ba

#### SECTION 10: Stability and reactivity

**10.1. Reactivity** Not available.

**10.2. Chemical stability** Material is stable under normal conditions.

**10.3. Possibility of hazardous** No dangerous reaction known under conditions of normal use.

reactions

**10.4. Conditions to avoid** Contact with incompatible materials.

**10.5. Incompatible materials** None known.

**10.6. Hazardous** No hazardous decomposition products are known.

decomposition products

# **SECTION 11: Toxicological information**

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

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. Harmful if swallowed.

**Symptoms** Exposure may cause temporary irritation, redness, or discomfort.

11.1. Information on toxicological effects

**Acute toxicity** In high concentrations, vapours are anaesthetic and may cause headache, fatique, dizziness and

central nervous system effects. Harmful if inhaled. Harmful if swallowed. Harmful if swallowed.

Due to partial or complete lack of data the classification is not possible. Skin corrosion/irritation

Serious eye damage/eye

irritation

Due to partial or complete lack of data the classification is not possible.

Respiratory sensitisation Due to partial or complete lack of data the classification is not possible. Skin sensitisation Due to partial or complete lack of data the classification is not possible. Germ cell mutagenicity Due to partial or complete lack of data the classification is not possible.

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

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens

at work (as amended)

Not listed.

Reproductive toxicity Due to partial or complete lack of data the classification is not possible. Specific target organ toxicity Due to partial or complete lack of data the classification is not possible.

- single exposure

Specific target organ toxicity

- repeated exposure

Due to partial or complete lack of data the classification is not possible.

**Aspiration hazard** Due to partial or complete lack of data the classification is not possible.

Mixture versus substance

information

No information available.

Other information This product has no known adverse effect on human health.

**SECTION 12: Ecological information** 

12.1. Toxicity Due to partial or complete lack of data the classification for hazardous to the aquatic environment,

is not possible.

12.2. Persistence and

degradability

No data is available on the degradability of this product.

12.3. Bioaccumulative

potential

No data available.

**Partition coefficient** 

n-octanol/water (log Kow)

Not available.

**Bioconcentration factor (BCF)** Not available. 12.4. Mobility in soil No data available.

12.5. Results of PBT

and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.7. Additional information

**Estonia Dangerous substances in groundwater Data** 

Barium boride (CAS 12046-08-1) Barium (Ba) 50 UG/L

Barium (Ba) 7000 UG/L

**Estonia Dangerous substances in soil Data** 

Barium boride (CAS 12046-08-1) Barium (Ba) 2000 mg/kg

> Barium (Ba) 500 mg/kg Barium (Ba) 750 mg/kg

**SECTION 13: Disposal considerations** 

13.1. Waste treatment methods

Material name: Barium Boride (BaB6) powder

2GQ Version #: 01 Issue date: 19-January-2018

**Residual waste** 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). Avoid discharge into water courses or onto the ground.

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is

emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

**EU waste code**The Waste code should be assigned in discussion between the user, the producer and the waste

disposal company. Waste codes should be assigned by the user based on the application for which

the product was used.

Disposal

methods/information

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. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. 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.

**Special precautions** Dispose in accordance with all applicable regulations.

# **SECTION 14: Transport information**

#### **ADR**

**14.1. UN number** UN1564

**14.2. UN proper shipping** Barium compounds, n.o.s.

name

14.3. Transport hazard class(es)

Class 6.1(PGIII)

Subsidiary risk - Label(s) 6.1

Hazard No. (ADR) Not available.

Tunnel restriction Not available.

code

**14.4. Packing group** III **14.5. Environmental** No.

hazards

**14.6. Special precautions** Read safety instructions, SDS and emergency procedures before handling.

for user

RID

**14.1. UN number** UN1564

**14.2. UN proper shipping** Barium compounds, n.o.s.

name

14.3. Transport hazard class(es)

Class 6.1(PGIII)

Subsidiary risk Label(s) 6.1

14.4. Packing group III

14.5. Environmental No.

hazards

**14.6. Special precautions** Read safety instructions, SDS and emergency procedures before handling.

for user

**ADN** 

**14.1. UN number** UN1564

**14.2. UN proper shipping** Barium compounds, n.o.s.

name

14.3. Transport hazard class(es)

Class 6.1(PGIII)

Subsidiary risk Label(s) 6.1

14.4. Packing group III

14.5. Environmental No.

hazards

**14.6. Special precautions** Read safety instructions, SDS and emergency procedures before handling.

for user

**IATA** 

**14.1. UN number** UN1564

**14.2. UN proper shipping** Barium compounds, n.o.s.

name

14.3. Transport hazard class(es)

Class 6.1(PGIII)

Subsidiary risk Label(s) 6.1

14.4. Packing group III

14.5. Environmental No.

hazards

**14.6. Special precautions** Read safety instructions, SDS and emergency procedures before handling.

for user

**IMDG** 

**14.1. UN number** UN1564

**14.2. UN proper shipping** Barium compounds, n.o.s.

name

14.3. Transport hazard class(es)

Class 6.1(PGIII)

Subsidiary risk Label(s) 6.1

14.4. Packing group III

14.5. Environmental hazards

Marine pollutant No.

**EmS** Not available.

**14.6. Special precautions** Read safety instructions, SDS and emergency procedures before handling.

for user

ADN; ADR; IATA; IMDG; RID



#### **SECTION 15: Regulatory information**

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA Not listed.

#### **Authorisations**

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended Not listed.

Restrictions on use

# Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

#### Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

Other regulations The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP

Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC)

No 1907/2006, as amended. Additional information is given in the Safety Data Sheet.

**National regulations** Follow national regulation for work with chemical agents.

15.2. Chemical safety

assessment

No Chemical Safety Assessment has been carried out.

#### **SECTION 16: Other information**

List of abbreviations
Information on evaluation
method leading to the
classification of mixture

Not available. Not applicable.

Disclaimer

Additional information is given in the Material Safety Data Sheet. Materion Advanced Chemicals Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

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.

Material name: Barium Boride (BaB6) powder

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