



PRODUCT INFORMATION SHEET

MATERION

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

1.1. Product identifier

Trade name or designation of the mixture Bismuth Antimony Products

Synonyms None.

Version number 01

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 product information sheet

Supplier

Company name Materion Advanced Materials Group

Address 42 Mt. Ebo Road South
Brewster, NY 10509
United States

Division

Telephone Supplier Phone 1+845.279.0900

e-mail Not available.

Contact person Not available.

1.4. Emergency telephone number Chemtrec 1+703.527.3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Classification F;R11

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 H332 - Harmful if inhaled.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard Category 3 H412 - Harmful to aquatic life with long lasting effects.

Hazard summary

Physical hazards Highly flammable.

Health hazards Not classified for health hazards.

Environmental hazards Not classified for hazards to the environment.

Specific hazards Not available.

Main symptoms Not available.

2.2. Label elements

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

Contains: Antimony, Bismuth

Hazard pictograms None.

Signal word Warning

Hazard statements

H302 Harmful if swallowed.

H332 Harmful if inhaled.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P261 Avoid breathing dust.
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.
P273 Avoid release to the environment.

Response

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.

Storage

Not available.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information

90 % of the mixture consists of component(s) of unknown acute oral toxicity. 90 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Bismuth	85 - 95	7440-69-9 231-177-4	-	-	
Classification:		DSD: F;R11			
		CLP: Flam. Sol. 2;H228, STOT SE 1;H370, STOT RE 1;H372			
Antimony	5 - < 15	7440-36-0 231-146-5	-	051-003-00-9	
Classification:		DSD: -			
		CLP: Acute Tox. 4;H302, Acute Tox. 4;H332, Aquatic Chronic 2;H411			

SECTION 4: First aid measures

General information Not available.

4.1. Description of first aid measures

Inhalation Not available.
Skin contact Not available.
Eye contact Not available.
Ingestion Not available.

4.2. Most important symptoms and effects, both acute and delayed Not available.

4.3. Indication of any immediate medical attention and special treatment needed Not available.

SECTION 5: Firefighting measures

General fire hazards Not available.

5.1. Extinguishing media

Suitable extinguishing media Not available.
Unsuitable extinguishing media Not available.

5.2. Special hazards arising from the substance or mixture Not available.

5.3. Advice for firefighters

Special protective equipment for firefighters Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Not available.

For emergency responders Not available.

6.2. Environmental precautions Not available.

6.3. Methods and material for containment and cleaning up Not available.

6.4. Reference to other sections Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Not available.

7.2. Conditions for safe storage, including any incompatibilities Not available.

7.3. Specific end use(s) Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value	Form
Antimony (CAS 7440-36-0)	MAK	0,5 mg/m ³	Inhalable fraction.
	STEL	5 mg/m ³	Inhalable fraction.

Belgium. Exposure Limit Values.

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value
Antimony (CAS 7440-36-0)	MAC	0,5 mg/m ³

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

Czech Republic. OELs. Government Decree 361

Components	Type	Value
Antimony (CAS 7440-36-0)	Ceiling	1,5 mg/m ³
	TWA	0,5 mg/m ³

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

Finland. Workplace Exposure Limits

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value
Antimony (CAS 7440-36-0)	VME	0,5 mg/m ³

Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
Antimony (CAS 7440-36-0)	STEL	2 mg/m ³
	TWA	0,5 mg/m ³

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³	Dust.

Ireland. Occupational Exposure Limits

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

Italy. Occupational Exposure Limits

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value	Form
Antimony (CAS 7440-36-0)	STEL	0,5 mg/m ³	Dust.
	TWA	0,2 mg/m ³	Dust.
Bismuth (CAS 7440-69-9)	TWA	0,5 mg/m ³	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³
Bismuth (CAS 7440-69-9)	TWA	0,5 mg/m ³

Netherlands. OELs (binding)

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
Antimony (CAS 7440-36-0)	TLV	0,5 mg/m ³

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value
Antimony (CAS 7440-36-0)	STEL	0,5 mg/m ³
	TWA	0,2 mg/m ³

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
Antimony (CAS 7440-36-0)	TWA	0,5 mg/m ³	Inhalable fraction.

Spain. Occupational Exposure Limits Components

Type	Value
Antimony (CAS 7440-36-0)	TWA 0,5 mg/m3

Sweden. Occupational Exposure Limit Values Components

Type	Value	Form
Antimony (CAS 7440-36-0)	TWA 0,25 mg/m3	Inhalable dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz Components

Type	Value	Form
Antimony (CAS 7440-36-0)	TWA 0,5 mg/m3	Inhalable dust.

UK. EH40 Workplace Exposure Limits (WELs) Components

Type	Value
Antimony (CAS 7440-36-0)	TWA 0,5 mg/m3

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

Recommended monitoring procedures Not available.

Derived no-effect level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Not available.

Individual protection measures, such as personal protective equipment

Eye/face protection Not available.

Skin protection

- **Hand protection** Not available.

- **Other** Not available.

Respiratory protection Not available.

Thermal hazards Not available.

Hygiene measures Not available.

Environmental exposure controls Not available.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

Physical state Solid.

Form Not available.

Colour Not available.

Odour Not applicable.

Odour threshold Not available.

pH Not available.

Melting point/freezing point 271 °C (519,8 °F) estimated

Initial boiling point and boiling range 1564 °C (2847,2 °F) estimated

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure 0,00001 hPa estimated

Vapour density Not available.

Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Solubility (other)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
9.2. Other information	
Density	9,47 g/cm3 estimated
Specific gravity	9,47 estimated

SECTION 10: Stability and reactivity

10.1. Reactivity	Not available.
10.2. Chemical stability	Not available.
10.3. Possibility of hazardous reactions	Not available.
10.4. Conditions to avoid	Not available.
10.5. Incompatible materials	Not available.
10.6. Hazardous decomposition products	Not available.

SECTION 11: Toxicological information

General information	Not available.
Information on likely routes of exposure	
Inhalation	Not available.
Skin contact	Not available.
Eye contact	Not available.
Ingestion	Not available.
Symptoms	Not available.
11.1. Information on toxicological effects	
Acute toxicity	No data available.
Skin corrosion/irritation	Not available.
Serious eye damage/eye irritation	Not available.
Respiratory sensitisation	Not available.
Skin sensitisation	Not available.
Germ cell mutagenicity	Not available.
Carcinogenicity	Not available.
Reproductive toxicity	Not available.
Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.
Mixture versus substance information	Not available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity

Components	Species	Test results
Antimony (CAS 7440-36-0)		
Aquatic		
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)
		6,2 - 8,3 mg/l, 96 hours
12.2. Persistence and degradability	Not available.	
12.3. Bioaccumulative potential	Not available.	
Partition coefficient n-octanol/water (log Kow)	Not available.	
Bioconcentration factor (BCF)	Not available.	
12.4. Mobility in soil	Not available.	
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.	
12.6. Other adverse effects	Not available.	
SECTION 13: Disposal considerations		
13.1. Waste treatment methods		
Residual waste	Not available.	
Contaminated packaging	Not available.	
EU waste code	Not available.	
SECTION 14: Transport information		
ADR		
14.1. UN number	UN3178	
14.2. UN proper shipping name	Flammable solid, inorganic, n.o.s. (Bismuth)	
14.3. Transport hazard class(es)		
Class	4.1	
Subsidiary risk	-	
Label(s)	4.1	
Hazard No. (ADR)	40	
Tunnel restriction code	E	
14.4. Packing group	III	
14.5. Environmental hazards	No.	
14.6. Special precautions for user	Not available.	
RID		
14.1. UN number	UN3178	
14.2. UN proper shipping name	Flammable solid, inorganic, n.o.s. (Bismuth)	
14.3. Transport hazard class(es)		
Class	4.1	
Subsidiary risk	-	
Label(s)	4.1	
14.4. Packing group	III	
14.5. Environmental hazards	No.	
14.6. Special precautions for user	Not available.	
ADN		
14.1. UN number	UN3178	
14.2. UN proper shipping name	Flammable Solid, N.o.s. (Bismuth)	
14.3. Transport hazard class(es)		
Class	4.1	
Subsidiary risk	-	
Label(s)	4.1	

- 14.4. Packing group** III
14.5. Environmental hazards No.
14.6. Special precautions for user Not available.

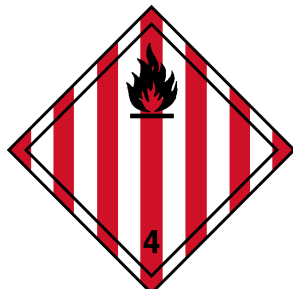
IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

ADN; ADR; 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, as amended
Not listed.

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

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I
Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1
Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2
Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3
Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V
Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended
Not listed.

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.

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended
Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use
Not regulated.

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.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended
Not listed.

Other EU regulations

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

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended

Not listed.

Directive 94/33/EC on the protection of young people at work, as amended

Not listed.

National regulations Not available.

15.2. Chemical safety assessment Not available.

SECTION 16: Other information

List of abbreviations Not available.

References Not available.

Information on evaluation method leading to the classification of mixture Not available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15

R11 Highly flammable.
H228 Flammable solid.
H302 Harmful if swallowed.
H332 Harmful if inhaled.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Revision information None.

Training information Not available.