



SAFETY DATA SHEET

MATERION

1. Product and company identification

Product name Barium - Titanium Oxide Product
Manufacturer/Supplier Materion Advanced Materials Group
Address 42 Mt. Ebo Road South
Brewster, NY 10509
United States
Telephone Supplier Phone 1+845.279.0900
e-mail Not available.
Contact person
Emergency telephone number Chemtrec 1+703.527.3887

Recommended use and Limitations on use

Recommended use Not available.

2. Hazards identification

GHS classification

Physical hazards Not classified.
Health hazards Carcinogenicity Category 2
Specific target organ toxicity following single exposure Category 3 respiratory tract irritation
Environmental hazards Not classified.

Label elements

Symbols None.
Signal word None.
Hazard statement None.

3. Composition/information on ingredients

Substance or mixture Mixture

Chemical property	CAS Number	Concentration (%)
Barium	7440-39-3	50 - < 60
Titanium dioxide TITANIUM DIOXIDE	13463-67-7	40 - < 50

4. First aid measures

Inhalation Not available.
Skin contact Not available.
Eye contact Not available.
Ingestion Not available.
Potential delayed effects Not available.
Personal protection for first-aid responders Not available.
Notes to physician Not available.

5. Fire-fighting measures

Extinguishing media Not available.
Extinguishing media to avoid None.
HAZCHEM Code Number None.
Specific hazards during fire fighting None.
Special fire fighting procedures Not available.
Protection of fire-fighters Not available.

Hazards from combustion products None.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Not available.

Environmental precautions Not available.

Spill cleanup methods Not available.

7. Handling and storage

Handling

Precautions Not available.

Safe handling advice Not available.

Prevention of fire and explosion Not available.

Storage

Suitable storage conditions Not available.

Incompatible materials Not available.

8. Exposure controls/personal protection

Exposure limits

New Zealand. WES. (Workplace Exposure Standards)

Components	Type	Value
Barium (CAS 7440-39-3)	TWA	0.5 mg/m ³
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value
Barium (CAS 7440-39-3)	TWA	0.5 mg/m ³
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m ³

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Titanium dioxide (CAS 13463-67-7)	TWA	4 mg/m ³	Respirable.
		10 mg/m ³	Inhalable

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value	Form
Barium (CAS 7440-39-3)	TWA	0.5 mg/m ³	
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m ³	Inhalable dust.

Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

Components	Type	Value	Form
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m ³	Inspirable dust.

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

Engineering controls

Personal protective equipment

Respiratory protection Not available.

Skin protection Not available.

Eye/face protection Not available.

Radioactive or thermal hazards Not available.

Hygiene measures Not available.

9. Physical and chemical properties

Appearance

Material name: Barium - Titanium Oxide Product
1261 Version #: 01 Issue date: 01-June-2015

Physical state	Solid.
Form	Not available.
Colour	Not available.
Odour	Not applicable.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	727 °C (1340.6 °F) estimated
Boiling point, initial boiling point, and boiling range	1897 °C (3446.6 °F) estimated
Flash point	Not available.
Auto-ignition temperature	Not applicable.
Flammability (solid, gas)	Not applicable.
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	1799.87 hPa estimated
Vapour density	Not available.
Evaporation rate	Not available.
Relative density	Not available.
Density	3.89 g/cm ³ estimated
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Decomposition temperature	Not available.
Other data	
Specific gravity	3.89 estimated

10. Stability and reactivity

Stability	None.
Conditions to avoid	None.
Incompatible materials	None.
Hazardous decomposition products	None.
Possibility of hazardous reactions	None.

11. Toxicological information

Acute toxicity	Not available.
Information on likely routes of exposure	
Ingestion	Not available.
Inhalation	Not available.
Skin contact	Not available.
Eye contact	Not available.
Routes of exposure	Not available.
Symptoms	Not available.
Skin corrosion/irritation	Not available.
Serious eye damage/eye irritation	Not available.
Skin sensitiser	Not available.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Titanium dioxide (CAS 13463-67-7)

2B Possibly carcinogenic to humans.

Chronic effects Not available.

Relevant negative data Not available.

12. Ecological information

Ecotoxicological data

Product		Species	Test results
Barium - Titanium Oxide Product			
Aquatic			
Crustacea	EC50	Daphnia	2222.2222 mg/l, 48 hours estimated
Fish	LC50	Fish	645.1613 mg/l, 96 hours estimated
Components			
Species			
Test results			
Barium (CAS 7440-39-3)			
Aquatic			
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	> 500 mg/l, 96 hours
Titanium dioxide (CAS 13463-67-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	LC50	Mummichog (Fundulus heteroclitus)	> 1000 mg/l, 96 hours

Ecotoxicity Not available.

Persistence and degradability Not available.

Bioaccumulation Not available.

**Partition coefficient
n-octanol/water (log Kow)** Not available.

Bioconcentration factor (BCF) Not available.

Mobility Not available.

Other hazardous effects Not available.

13. Disposal considerations

**Disposal
methods/information** Not available.

Special precautions Not available.

14. Transport information

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

**Transport in bulk according to
Annex II of MARPOL 73/78
and the IBC Code** Not available.

15. Regulatory information

Applicable regulations

New Zealand Inventory of Chemicals (NZIoC): Registration status

Barium (CAS 7440-39-3)

HSNO Approved

Titanium dioxide (CAS 13463-67-7)

May be used as a single component chemical under an appropriate group standard

16. Other information

References Not available.

Issued by

Not available.

Prepared by

Not available.

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