

## SAFETY DATA SHEET

Creation Date 16-Feb-2005

Revision Date 14-Feb-2020

Revision Number 2

### 1. Identification

**Product Name** Barium pieces

**Cat No. :** 00653

**CAS-No** 7440-39-3  
**Synonyms** No information available

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.  
**Details of the supplier of the safety data sheet**

#### Company

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

#### **Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Substances/mixtures which, in contact with water, emit flammable gases	Category 1
Aspiration Toxicity	Category 1

#### Label Elements

#### **Signal Word**

Danger

#### **Hazard Statements**

In contact with water releases flammable gases which may ignite spontaneously  
May be fatal if swallowed and enters airways

**Precautionary Statements****Prevention**

Keep away from any possible contact with water, because of violent reaction and possible flash fire

Handle under inert gas. Protect from moisture

Wear protective gloves/protective clothing/eye protection/face protection

**Skin**

Brush off loose particles from skin. Immerse in cool water/wrap with wet bandages

**Ingestion**

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Do NOT induce vomiting

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Storage**

Store locked up

Store in a dry place. Store in a closed container

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Barium	7440-39-3	80-100
White mineral oil	8042-47-5	10-25

### 4. First-aid measures

<b>General Advice</b>	If symptoms persist, call a physician.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. Risk of serious damage to the lungs (by aspiration).
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs naturally, have victim lean forward.
<b>Most important symptoms and effects</b>	None reasonably foreseeable.
<b>Notes to Physician</b>	Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Powder. Dry sand.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	No information available
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

**Specific Hazards Arising from the Chemical**

Water reactive. Combustible material. Produce flammable gases on contact with water.

**Hazardous Combustion Products**

None known.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

<b>Health</b>	<b>Flammability</b>	<b>Instability</b>	<b>Physical hazards</b>
3	3	2	W

## 6. Accidental release measures

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.
<b>Environmental Precautions</b>	Should not be released into the environment.

**Methods for Containment and Clean Up** Pick up and transfer to properly labelled containers. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Extremely slippery when spilled.

## 7. Handling and storage

<b>Handling</b>	Wear personal protective equipment/face protection. Handle under inert gas, protect from moisture. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed. Protect from moisture. Keep from any possible contact with water. Store under an inert atmosphere.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Barium	TWA: 0.5 mg/m <sup>3</sup>	(Vacated) TWA: 0.5 mg/m <sup>3</sup>		TWA: 0.5 mg/m <sup>3</sup>

*Legend*

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

**Engineering Measures** Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation,

especially in confined areas.

### Personal Protective Equipment

<b>Eye/face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Solid
<b>Appearance</b>	Grey
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting Point/Range</b>	725 °C / 1337 °F
<b>Boiling Point/Range</b>	1640 °C / 2984 °F
<b>Flash Point</b>	No information available
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid,gas)</b>	No information available
<b>Flammability or explosive limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Vapor Pressure</b>	10-13 hPa (1049°C)
<b>Vapor Density</b>	Not applicable
<b>Specific Gravity</b>	No information available
<b>Solubility</b>	No information available
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No information available
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	Not applicable
<b>Molecular Formula</b>	Ba
<b>Molecular Weight</b>	137.34

## 10. Stability and reactivity

<b>Reactive Hazard</b>	Yes
<b>Stability</b>	Moisture sensitive. Air sensitive.
<b>Conditions to Avoid</b>	Exposure to air. Incompatible products. Exposure to moisture.
<b>Incompatible Materials</b>	Acids, Water, Alcohols, Halogens
<b>Hazardous Decomposition Products</b>	None under normal use conditions
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Acute Toxicity

**Product Information****Oral LD50**

Category 3. ATE = 50 - 300 mg/kg.

**Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Barium	LD50 = 132 mg/kg ( Rat )	Not listed	Not listed
White mineral oil	LD50 > 5000 mg/kg ( Rat )	Not listed	Not listed

**Toxicologically Synergistic Products** No information available**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Irritation** No information available**Sensitization** No information available**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Barium	7440-39-3	Not listed	Not listed	Not listed	Not listed	Not listed
White mineral oil	8042-47-5	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** No information available**Reproductive Effects** No information available.**Developmental Effects** No information available.**Teratogenicity** No information available.**STOT - single exposure** None known**STOT - repeated exposure** None known**Aspiration hazard** No information available**Symptoms / effects, both acute and delayed** No information available**Endocrine Disruptor Information** No information available**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**

Reacts with water so no ecotoxicity data for the substance is available.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Barium	Not listed	LC50: > 500 mg/L/96h (Cyprinodon variegatus)	Not listed	Not listed
White mineral oil	Not listed	LC50: > 10000 mg/L/96h (Lepomis macrochirus)	Not listed	Not listed

**Persistence and Degradability** Persistence is unlikely based on information available.**Bioaccumulation/ Accumulation** No information available.**Mobility** Is not likely mobile in the environment.

Component	log Pow
White mineral oil	6

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

**DOT**

**UN-No** UN1400  
**Proper Shipping Name** BARIUM  
**Hazard Class** 4.3  
**Packing Group** II

**TDG**

**UN-No** UN1400  
**Proper Shipping Name** BARIUM  
**Hazard Class** 4.3  
**Packing Group** II

**IATA**

**UN-No** UN1400  
**Proper Shipping Name** Barium  
**Hazard Class** 4.3  
**Packing Group** II

**IMDG/IMO**

**UN-No** UN1400  
**Proper Shipping Name** Barium  
**Hazard Class** 4.3  
**Packing Group** II

### 15. Regulatory information

**United States of America Inventory**

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
Barium	7440-39-3	X	ACTIVE	-
White mineral oil	8042-47-5	X	ACTIVE	-

**Legend:**

**TSCA** - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Barium	7440-39-3	X	-	231-149-1	X	X	X	X	KE-02022
White mineral oil	8042-47-5	X	-	232-455-8	X	X	X	X	KE-35412

**U.S. Federal Regulations****SARA 313**

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Barium	7440-39-3	80-100	1.0

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA** Not applicable

Component	Hazardous Substances RQs	CERCLA EHS RQs
Barium	1000 lb	-

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Barium	X	X	X	-	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

## 16. Other information

**Prepared By** Health, Safety and Environmental Department  
Email: tech@alfa.com  
www.alfa.com

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**Revision Summary** SDS authoring systems update, replaces ChemGes SDS No. 7440-39-3.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**