

SAFETY DATA SHEET

BARIUM FLUORIDE OPTICAL CRYSTAL

According to Regulation (EC) No.1907/2006 (REACH)

THORLABS

1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

CHEMICAL NAME: Barium Fluoride
SYNONYMS, TRADE NAMES: BaF₂
DESCRIPTION: Inorganic Crystalline pieces
USAGE: Optical Material
APPEARANCE: Clear transparent solid. No odour
SUPPLIER:

2. HAZARDS IDENTIFICATION



Xn If swallowed causes nausea, vomiting, stomach pains and diarrhoea. Also harmful in contact with skin. Particular care must be exercised when machining and creating dust or particles.

Class 6.1 **Poison**

Signal: **Warning**
H302 Harmful if swallowed.
H315 Causes skin irritation
H319 Causes serious eye irritation
H332 Harmful if inhaled.

Prevention:

P262 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when handling this product

Response:

P301+P310 IF SWALLOWED: Immediately call a poison centre or doctor. Rinse mouth.
P304+P312 IF INHALED: Call a poison centre or doctor/physician if you feel unwell.



3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT NAME	CAS number	%	EC number (EINECS)	EU index	UN number
Barium Fluoride	7787-32-8	100%	232-108-0	056-002-00-7	1564

4. FIRST AID MEASURES

EYES: Irrigate thoroughly with water for at least 15 minutes. Obtain medical attention.
SKIN: Wash off thoroughly with soap and water. Gently dry area with clean towel. Remove contaminated clothing and wash clothing before re-use.
INHALATION: Remove to uncontaminated area. Perform artificial respiration if breathing has stopped. When breathing is difficult, properly trained personnel may administer oxygen. Keep affected person warm and at rest. Obtain medical attention.
INGESTION: Induce vomiting if conscious and as directed by a properly qualified personnel. Wash out mouth thoroughly with water. NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS. Obtain Medical Attention Immediately!

5. FIRE FIGHTING MEASURES

FLASH POINT: Not Ignitable. Not Applicable
UNUSUAL FIRE HAZARDS: May evolve toxic fumes in a fire.
EXTINGUISHING MEDIA: As appropriate to the environment

6. ACCIDENTAL RELEASE MEASURES

CONTAMINATION CLEANUP: Wear suitable protective clothing & equipment as listed under Exposure / Personal protection. Take up and containerize for proper disposal. Avoid making dust. Containerize any cleaning materials used for proper disposal.

7. HANDLING AND STORAGE

USAGE PRECAUTIONS: Avoid skin contact. Protect against physical damage and avoid generating dust.
STORAGE PRECAUTIONS: Keep away from foodstuffs. Keep away from acids and strong bases.

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8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Protective gloves made of nitrile rubber (0.11mm) are required. Use of a laboratory coat is suggested. Safety goggles or safety glasses with side shields are required if there is any possibility of chipping or dust creation. Respirators must be worn when the threshold limit is exceeded. Provide adequate general mechanical ventilation, and local exhaust ventilation.

OCCUPATIONAL EXPOSURE LIMITS (OEL) = 0.5 mg/m³ as Barium in 8 hour Time Weighted Average (TWA)

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE :	Clear glassy geometric shapes, no odour.
pH IN AQUEOUS SOLUTION:	Not determined
BOILING POINT (760mm Hg)	Not known
MELTING POINT:	1355°C
FLASH POINT:	Not Applicable
FLAMMABILITY:	Not Applicable
EXPLOSIVE PROPERTIES:	Not Applicable
SPECIFIC GRAVITY:	4.89
VAPOUR PRESSURE:	Not Applicable
SOLUBILITY IN WATER:	Slightly soluble; 170mg/100ml H ₂ O at 23°C

10. STABILITY AND REACTIVITY

STABILITY:	Stable under normal conditions of storage and use.
HAZARDOUS DECOMPOSITION:	Liberates toxic hydrogen fluoride gas in contact with mineral acid.
MATERIALS TO AVOID:	Acids, Oxidisers, Concentrated Hot Sulphuric Acid

11. TOXICOLOGICAL INFORMATION

TOXIC DOSE - LD50	50 mg/kg (oral, rat)
CARCINOGENICITY	No evidence of carcinogenic properties
MUTAGENICITY/TERATOGENICITY	Evidence of reproductive effects
TOXICOLOGICAL FINDINGS	If swallowed causes nausea, vomiting, stomach pains and diarrhoea. Also harmful in contact with skin. Particular care must be exercised when machining and creating dust or particles.

12. ECOLOGICAL INFORMATION

The following applies to inorganic fluorides in general: biological effects: fish: L idus LC50 660mg/l; bacteria:Ps putida toxic from 231 mg/l up; algae: Sc quadricauda toxic from 249mg/l up; protozoa:E.sulcatum toxic from 101mg/l up; U parduczi toxic from 71mg/l up (all values as NaF). Hazard to drinking water.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS:	Chemical residues are generally classified as special waste, and are covered by regulations which vary according to location. Contact your local waste disposal authority for advice, or pass to a chemical disposal company.
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14. TRANSPORT INFORMATION

Class	UN	Packing Group	Proper Shipping Name
6.1	1564	III	Barium Compound, N.O.S. (Barium Fluoride)

15. REGULATORY INFORMATION

Hazard Symbols:	Xn - Harmful
Risk Phrases:	20/22 Harmful by inhalation and if swallowed.
Safety Phrases:	28 After contact with skin, wash immediately with plenty of soap and warm water.

Note that the Risk and Safety Phrases included here for completeness are being replaced with the GHS Hazard and Precautionary statements given in section 2.

The above information is believed to be correct but does not purport to be all inclusive and must be used only as a guide.