SAFETY DATA SHEET

BARIUM FLUORIDE OPTICAL CRYSTAL

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

Revision 2015 : Issued 9th September 2015

1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

1.1. PRODUCT IDENTIFIERS:

Product Name: Barium Fluoride Optical Crystal

Synonyms, Trade Names: BaF_2

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified Uses: Optical Material for manufacture of Optical Components.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: CRYSTRAN LTD, 1 Broom Road Business Park, Poole, Dorset UK BH12 4PA

☎ +44 1202 307650

1.4. EMERGENCY TELEPHONE NUMBER

Emergency Phone: ☎ +44 1202 307650 (Monday to Friday 08:30 to 17:00 GMT)

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department. The attending health professional will be able to contact the National Poisons Information Service.

2. HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Class 6.1 poison. 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

2.2. LABEL ELEMENTS

Signal Word: Warning

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation.
H332	Harmful if inhaled

Precautionary Statements:

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

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.

2.3. OTHER HAZARDS

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. SUBSTANCES

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

4.1. DESCRIPTION OF FIRST AID MEASURES

GENERAL:	Consult a doctor for specific advice.
EYES:	Irrigate thoroughly with water for at least 15 minutes. Obtain medical attention.
SKIN:	Wash thoroughly with soap and water. Dry area with clean towel. Remove contaminated clothing and wash clothing before re-use.
INHALATION:	Remove to fresh air. 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 properly qualified personnel. Wash out mouth thoroughly with water. Never make an unconscious person vomit or drink fluids. Obtain Medical Attention Immediately!.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Refer to Section 2.2 and to section 11.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No Data.

5. FIRE FIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

This product does not burn.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Material may evolve toxic fumes in a fire.

5.3. ADVICE FOR FIREFIGHTERS

Use breathing apparatus if necessary.

6. ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear suitable protective clothing & equipment as listed under Section 8. Avoid making dust.

6.2. ENVIRONMENTAL PRECAUTIONS

Prevent further leakage or spillage. Do not let product enter drains. Do not discharge to the environment.

6.3. METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Take up and containerize for proper disposal. Containerize any cleaning materials used for proper disposal.

6.4. REFERENCE TO OTHER SECTIONS

Dispose as in Section 13.

7. HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING:
Keep away from heat. Avoid contact with skin and eyes. Protect against physical damage. Avoid generating dust.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES
Keep away from foodstuffs. Keep away from strong acids.

7.3. SPECIFIC END USES
Optical Material for Manufacture of Optical Components.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

8.1. CONTROL PARAMETERS
OCCUPATIONAL EXPOSURE LIMITS (OEL) = 0.5 mg/m^3 as Barium in 8 hour Time Weighted Average (TWA)

8.2. EXPOSURE CONTROLS
Protective gloves made of PVA 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. Wash hands immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE :	Clear glassy geometric shapes, no odour.	FLASH POINT:	Not Applicable
BOILING POINT (760mm Hg)	Not Applicable	FLAMMABILITY:	Not Applicable
MELTING POINT:	1355°C	EXPLOSIVE PROPERTIES:	Not Applicable
SPECIFIC GRAVITY:	4.89 g/mL	VAPOUR PRESSURE:	Negligible at 25°C
SOLUBILITY IN WATER:	Slightly soluble; 170mg/100ml H_2O at 23°C	pH IN AQUEOUS SOLUTION:	Not determined

9.2. OTHER SAFETY INFORMATION
None

10. STABILITY AND REACTIVITY

10.1. REACTIVITY
Reacts with strong mineral acids.

10.2. CHEMICAL STABILITY
Stable under normal conditions of storage and use

10.3. POSSIBILITY OF HAZARDOUS REACTIONS
None known

10.4. CONDITIONS TO AVOID
Avoid strong acids

10.5. INCOMPATIBLE MATERIALS
Strong Mineral Acids.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS
Decomposition product is Hydrogen Fluoride gas.

11. TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS
Toxic by ingestion and inhalation of dust, with a cumulative effect. Affects nervous system. Particular care must be exercised when machining and creating dust or particles. Inhalation of dust may irritate respiratory system.
TOXIC DOSE - LD50 > 50 mg/kg (oral/rat) **CARCINOGENICITY:** No evidence of carcinogenic properties.
MUTAGENICITY/TERATOGENICITY: Some evidence of reproductive effects.

12. ECOLOGICAL INFORMATION

12.1. TOXICITY
Danger to drinking water.

12.2. PERSISTENCE AND DEGRADABILITY
No Data

12.3. BIOACCUMULATIVE POTENTIAL
No Data

12.4. MOBILITY IN SOIL
No Data

12.5. RESULTS OF PBT AND vPvB ASSESSMENT
Not required or conducted

12.6. OTHER ADVERSE AFFECTS
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

13.1. WASTE TREATMENT 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.

14. TRANSPORT INFORMATION

14.1. UN NUMBER: 1564

14.2. UN PROPER SHIPPING NAME:
Barium Compound, N.O.S. (Barium Fluoride).

14.3. TRANSPORT HAZARD CLASS: 6.1

14.4. PACKING GROUP: III

14.5. ENVIRONMENTAL HAZARDS: None

14.6. SPECIAL PRECAUTIONS FOR USER: None

14.7. TRANSPORT IN BULK MARPOL / IBC: No Data

15. REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS / LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE
TSCA: Listed in the TSCA inventory

16. OTHER INFORMATION

REVISION DATE: 9th September 2015 ©2015 Crystran Ltd.
The above information is believed to be correct but does not purport to be all inclusive and must be used only as a guide.

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