

MATERIAL SAFETY DATA SHEET

This sheet is to inform you of any hazards that may be associated with this product. However, Thermo Nicolet Corporation claims no responsibility for its completeness or accuracy. This data does not relate to any use of this product, alone or in combination with any other material or process.

Thermo Nicolet

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Date: August 16, 2002

Emergency telephone number:

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General Information

Common name: Barium fluoride optical crystal
Chemical name: Barium fluoride
Formula: BaF_2
CAS number: 7787-32-8
Supplier: Solon Technologies, Inc.
6801 Cochran Road
Lolon OH 44139
Telephone: 216-248-7400

Hazardous Ingredients/Identity Information

Ingredient: Barium fluoride
% weight: 100
PEL-OSHA: 0.5 mg/m^3 as Ba, soluble; 2.5 mg/m^3 as F
TLV-ACGIH: 0.5 mg/m^3 as Ba; 2.5 mg/m^3 as F
CAS number: 7787-32-8

Ingredient hazard statement

Due to the formed nature of this product, no airborne concentrations are expected.

Causes eye, skin and respiratory tract irritation.

Harmful if swallowed.

Unless otherwise noted, all values are reported as 8-hour time-weighted averages (TWAs) and total dust (particulates only). All ACGIH TLVs refer to the 1990-91 Standards. All OSHA PELs refer to 29 CFR Part 1910 Air Contaminants: Final Rule, January 19, 1989.

Physical/Chemical Characteristics

Boiling point: Not applicable
Specific gravity (water = 1): 4.83
Melting point: Not applicable
Vapor density (air=1): Not applicable
Evaporation rate (butyl acetate = 1): Not applicable
% Solubility in water: 0.12 g/100 g at 25°C
Appearance and odor: White, odorless solid

Fire and Explosion Hazard Data

Flash point: Not available
Autoignition: Not available
LEL: Not available
UEL: Not available

NFPA hazard classification

Health: 0 Flammable: 0 Reactivity: 0

HMIS hazard classification

Health: 0 Flammable: 0 Reactivity: 0

Extinguishing media

Use water, carbon dioxide or foam.

Special fire-fighting procedures

None expected.

Unusual fire and explosive hazards

Not a fire or explosion hazard.

Reactivity Data

Stability: Generally considered stable
Avoid: None expected
Polymerization: Polymerization is not expected to occur.
Avoid: Not applicable

Incompatibility (materials to avoid)

None expected.

Hazardous decomposition or by-products

None expected.

Health Hazard Data

Routes of entry

Eyes: Yes Skin: Yes Inhalation: Yes Ingestion: Yes

Inhalation: Inhalation may cause irritation of the respiratory tract if doses are prolonged or excessive.
Barium and fluoride absorption can result in muscle (including cardiac) and nerve irregularities,
as well as potassium and calcium deficiencies.

Ingestion: Ingestion of large amounts is harmful.

Note: Health effects apply only if dust is formed during grinding, cutting and/or polishing of crystal.

Carcinogenicity

NTP? No IARC? No OSHA? No

Chronic health hazards

Exposure to fluorides over years may produce embrittlement and decalcification of bones and increased calcification of ligaments and vertebrae, resulting in spinal stiffness (fluorosis).

Medical conditions generally aggravated by exposure

May aggravate existing respiratory and/or skin ailments.

Emergency and first-aid procedures

- Eye and skin contact: Immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. Flush skin with water.
- Inhalation: Procedures normally not needed. If exposed to excessive levels of dust or fumes, remove to fresh air and seek medical attention.
- Ingestion: Immediately give two glasses of water and call a physician, hospital emergency room or poison control center for a way to induce vomiting. Never give anything by mouth to an unconscious person.

Precautions for Safe Handling and Use

- EPA waste number: D005
UN number: Not applicable
DOT classification: Not regulated

Steps to be taken in case material is released or spilled

If original container is broken or not useable, scoop up or vacuum material into a container for disposal. It is recommended that each user establish a spill prevention, control and countermeasure plan (SPCC). Such plan should include procedures applicable to proper storage, control and clean-up of spills, including reuse or disposal as appropriate (see "Waste disposal method" in the "Disposal Data" section below).

Precautions to be taken in handling and storage

- Wash thoroughly after handling.
Keep away from food and feed products.

Personnel sampling procedure

For fluoride, refer to *NIOSH Manual of Analytical Methods*, 3rd Edition, Volume 1, Method 7902.

Control Measures

Respiratory protection

A NIOSH/MSHA-approved respirator as necessary.

Ventilation

General: If material is machined, provide local exhaust ventilation as necessary to control dust.

Protective equipment

Safety glasses (with side shields).

Rubber or neoprene gloves.

If material is machined, provide exhaust and dust mask.

Work/hygiene practices

Avoid contact with eyes, skin and clothing.

Disposal Data

Waste disposal method

Federal, state and local disposal laws and regulations will determine the proper waste disposal procedure. All waste materials should be reviewed to determine the applicable hazards (testing may be necessary). Disposal requirements are dependent on the hazard classification and will vary by location and the type of disposal selected. Some waste materials are amenable to recycle/reuse.

Label Data

SARA hazard categories

Immediate (acute) health hazard:	Yes
Delayed (chronic) health hazard:	Yes
Fire hazard:	No
Reactivity hazard:	No
Sudden release of pressure:	No

SARA Section 313 notification

This product contains a toxic chemical (or chemicals) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Chemical name:	Barium fluoride
CAS number:	7787-32-8
Percent weight:	100

Disclaimer

We have compiled the information and regulations contained in this Material Safety Data Sheet from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, quantity or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products.