

# SHORECHEM, LLC

## MATERIAL SAFETY DATA SHEET

### Stannous Fluoroborate

#### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Stannous Fluoborate Solution

**OTHER/GENERIC NAMES:** Stannous fluoborate, aqueous solution.  
Tin fluoborate solution

**PRODUCT CODES:** 194-2344

**PRODUCT USE:** Industrial

**DISTRIBUTOR:** ShoreChem, LLC  
12 Route 17 North, Suite 309  
Paramus, NJ 07652

**TELEPHONE:** (201) 845-4666  
(Monday-Friday, 8:30 AM – 5:00 PM)

**CHEMTREC PHONE:** 1800-424-9300  
(24 Hours/Day, 7 Days/Week)

#### SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME:</u>	<u>CAS NO.</u>	<u>% WT</u>
Stannous fluoborate	13814-97-6	50-52
Water	7732-18-5	Balance

Trace impurities and additional material names not listed above may also appear in Section 15 towards the end of the MSDS. These materials may be listed for local "Right-to-Know" compliance and for other reasons.

**OSHA Hazard Communication Standard:** *This product is considered hazardous under the OSHA Hazard Communication Standard*

#### SECTION 3: HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** A clear, colorless liquid with relatively no odor. Harmful or may be fatal if swallowed. Harmful if inhaled. May cause skin and eye irritation and/or burns. Not flammable.

#### POTENTIAL HEALTH HAZARDS

**EYES:** May cause severe irritation and/or corneal damage (burns).

**SKIN:** May cause irritation and/or burns, especially with prolonged contact.

**INGESTION:** May cause severe damage to mouth, esophagus, and stomach. May be fatal. May cause kidney damage and hypocalcemia, possibly severe, due to the fluoride content, which precipitates calcium stored in the body.

**INHALATION:** Inhalation of mist may irritate mucous membranes, nose, throat and lungs.

**DELAYED EFFECTS:** There is no chronic toxicity data on this material, however, NIOSH links inorganic

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fluoroborates with inorganic fluorides. Chronic exposure to fluorides is associated with osseous fluorosis – increased radiographic density of bones, mottling of teeth, etc. These conditions will not develop if permissible exposure levels are not exceeded.

Ingredients found on one of the three OSHA designated carcinogen lists are listed below.

<u>INGREDIENT NAME</u>	<u>NTP STATUS</u>	<u>IARC STATUS</u>	<u>OSHA LIST</u>
No ingredients listed in this section			

#### SECTION 4: FIRST AID MEASURES

**SKIN:** Promptly wash with plenty of soap and water, then flush with water until all chemical is removed. Get medical attention for any irritation. Promptly remove contaminated clothing and wash before reuse.

**EYES:** Immediately flush eyes with large quantities of water for 15-20 minutes, holding eyelids open to allow thorough flushing. Get medical attention for potential corneal damage.

**INHALATION:** Remove to fresh air. If breathing is difficult, give oxygen, provided a qualified operator is available. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention if symptoms persist.

**INGESTION:** Do not induce vomiting. If conscious, give several glasses of milk or other calcium-containing liquids, or several ounces of milk of magnesia, if available; otherwise, give large quantities of water and get immediate medical attention.

**ADVICE TO PHYSICIAN:** Fluorides can reduce serum calcium levels resulting in potentially fatal hypocalcemia.

#### SECTION 5: FIRE-FIGHTING MEASURES

##### FLAMMABLE PROPERTIES

<b>FLASH POINT:</b>	Not flammable
<b>FLASH POINT METHOD:</b>	Not applicable
<b>AUTOIGNITION TEMPERATURE:</b>	Not applicable
<b>UPPER FLAME LIMIT (volume % in air)</b>	Not applicable
<b>LOWER FLAME LIMIT (volume % in air)</b>	Not applicable
<b>FLAME PROPAGATION RATE (solids)</b>	Not applicable

##### **EXTINGUISHING MEDIA:**

Use foam, carbon dioxide or dry chemical. Do not use water stream directly on material itself. Use water spray to absorb or disperse vapors.

##### **UNUSUAL FIRE AND EXPLOSION HAZARDS:**

High temperatures yield mists containing toxic stannous fluoborate, which is corrosive to skin and some metals.

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#### SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:

Avoid breathing vapors from burning material. Avoid bodily contact with the material. Wear NIOSH-approved self-contained breathing apparatus. If contact with the material is anticipated, wear full protective clothing. Use water spray to keep fire-exposed containers cool.

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#### SECTION 6: ACCIDENTAL RELEASE MEASURES

**IN CASE OF SPILL OR OTHER RELEASE:** (See section 8 for recommended personal protective equipment.) Contain spill with readily available material (earth, sand, etc.) and recover if possible. Otherwise, neutralize with sodium carbonate or other alkali and, using caution, flush with water, if permitted by applicable disposal regulations. Keep out of sewer. Mop or pump into a suitable container, cover and label for storage and later disposal. Provide personal protection for personnel involved with clean-up.

Spills and releases may have to be reported to Federal and/or local authorities. See section 15 regarding reporting requirements.

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#### SECTION 7: HANDLING AND STORAGE

**NORMAL HANDLING:** (See section 8 for recommended personal protective equipment.)

Do not get in eyes, on skin or on clothing. Avoid breathing mist, if formed. Observe good personal hygiene and good housekeeping practices. Wash thoroughly after handling. Use with adequate ventilation and do not eat or smoke while handling.

#### STORAGE RECOMMENDATIONS:

Store at moderate temperatures out of the sun in a dry, well-ventilated area, away from foodstuffs. Keep containers tightly closed and protect from physical damage.

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#### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

##### ENGINEERING CONTROLS:

If misty conditions prevail, provide local exhaust ventilation or a ventilated closed system (e.g., hood). Natural ventilation is normally adequate in the absence of misty conditions.

##### PERSONAL PROTECTIVE EQUIPMENT

<b>SKIN PROTECTION:</b>	Wear impervious apron and gloves for routine product use. For increased protection, if repeated or prolonged contact with liquid is anticipated, wear impervious jacket and trousers. Promptly remove and wash items upon contamination.
<b>EYE PROTECTION:</b>	Under normal working conditions, wear chemical safety goggles; add a full-face plastic shield if solution may be splashed or sprayed and there is any possibility of liquid contacting eyes. Do not wear contact lenses.
<b>RESPIRATORY PROTECTION</b>	For low levels of mist (<10 x TLV), use a NIOSH-approved dust and mist respirator. For intermediate levels of exposure (>10 x but <100 x TLV), use NIOSH-approved, full-face, air cleaning respirators for both lung and eye protection. For high levels, use NIOSH-approved self-contained or supplied-air breathing systems.

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#### ADDITIONAL RECOMMENDATIONS

Provide eyewash stations and quick drench shower facilities near work areas.

#### EXPOSURE GUIDELINES:

<u>INGREDIENT NAME</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER LIMIT</u>
Stannous fluoborate (as tin)	2 mg/m <sup>3</sup> (as Sn) TWA	2 mg/m <sup>3</sup> (asSn) TWA	-----
Stannous fluoborate (as fluoride)	2.5 mg/m <sup>3</sup> (as F) TWA	2.5 mg/m <sup>3</sup> (as F) TWA	F in urine: 3 mg/g creatinine pre shift, 10 mg/g postshift. <sup>3</sup>

<sup>1</sup> = Limit established by Industry Standard.

<sup>2</sup> = Workplace Environmental Exposure Level (AIHA).

<sup>3</sup> = Biological Exposure Index (ACGIH).

#### OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:

None

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear Colorless Liquid
PHYSICAL STATE:	Liquid
MOLECULAR WEIGHT:	292.21
CHEMICAL FORMULA:	Sn(BF <sub>4</sub> ) <sub>2</sub> + H <sub>2</sub> O
ODOR:	Essentially Odorless
SPECIFIC GRAVITY (H <sub>2</sub> O = 1):	Approx. 1.55
SOLUBILITY IN WATER (weight %):	Complete
pH:	Approx. 2
BOILING POINT:	Not determined
MELTING POINT:	Not determined
VAPOR PRESSURE:	Not applicable
VAPOR DENSITY (air= 1.0):	Not applicable
EVAPORATION RATE:	Not applicable
% VOLATILES:	Not applicable
FLASH POINT:	Not flammable

(Flash point method and additional flammability data are found in Section 5.)

COMPARED TO: Not Applicable

### SECTION 10: STABILITY AND REACTIVITY

#### NORMALLY STABLE/(CONDITIONS TO AVOID):

Stable. Avoid high temperatures which results in the production of toxic mists.

#### INCOMPATIBILITIES:

Stannous fluoborate solution is acidic and will react with acid-incompatible materials, e.g., cyanides, sulfides. It may react vigorously with strong oxidizing agents.

#### HAZARDOUS DECOMPOSITION PRODUCTS:

Stannous fluoride, boron trifluoride gas (speculative).

Boiling yields a toxic mist containing stannous fluoborate.

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In dilute solution, some hydrolysis to hydrofluoric acid may occur.

**HAZARDOUS POLYMERIZATION:**

Will not occur.

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**SECTION 11: TOXICOLOGICAL INFORMATION**

**IMMEDIATE (ACUTE) EFFECTS:**

Hypocalcemia, possibly severe or fatal, may occur due to the fluoride content, which can precipitate calcium stored in the body.

**DELAYED (SUBCHRONIC AND CHRONIC EFFECTS)**

Chronic exposure to fluorides may damage the kidney and cause fluorosis.

**OTHER DATA:**

None.

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**SECTION 12: ECOLOGICAL INFORMATION**

**LC<sub>50</sub> (rainbow trout):**

80 mg/L / 24 hrs.

78 mg/L / 48 thru 96 hrs.

**EC<sub>50</sub> (Daphnia magna):**

87 mg/L / 24 and 48 hrs.

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**SECTION 13: DISPOSAL CONSIDERATIONS**

**RCRA**

**Is the unused product a RCRA hazardous waste if discarded?** Yes      **If yes, the RCRA ID number is:** D002

**OTHER DISPOSAL CONSIDERATIONS:**

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

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**SECTION 14: TRANSPORT INFORMATION**

**US DOT HAZARD CLASS:**

8, PG II

**US DOT ID NUMBER:**

UN 3264

**PROPER SHIPPING NAME:**

Corrosive liquid, acidic, inorganic, n.o.s. (stannous fluoborate)

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

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**SECTION 15: REGULATORY INFORMATION**

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**TOXIC SUBSTANCES CONTROL ACT (TSCA)**

**TSCA INVENTORY STATUS:** All ingredients listed on the TSCA Inventory

**OTHER TSCA ISSUES:** None

**SARA TITLE III/ CERCLA**

"Reportable/ Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

**INGREDIENT NAME**

**SARA/CERCLA RQ (LB)**

**SARA EHS TPQ(LB)**

None listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center (800) 424-8803 and to your Local Emergency Planning Committee.

**SECTION 311 HAZARD CLASS:** Immediate, delayed

**SARA 313 TOXIC CHEMICALS:**

The following ingredients are SARA 313 "Toxic Chemicals" and may be subject to annual reporting requirements. CAS numbers and weight percents are found in Section 2.

**INGREDIENT NAME**

**COMMENT**

**STATE RIGHT-TO-KNOW**

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

**INGREDIENT NAME**

**WEIGHT%**

**COMMENT**

No ingredients listed in this section.

**ADDITIONAL REGULATORY INFORMATION:**

None listed.

**WHMIS CLASSIFICATION (CANADA):**

Not determined.

**FOREIGN CHEMICAL CONTROL INVENTORY STATUS**

Listed on Canadian DSL and EU EINECS.

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**SECTION 16: OTHER INFORMATION**

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**CURRENT ISSUE DATE:** OCTOBER 11, 2005

**PREVIOUS ISSUE DATE:** JANUARY 1, 2005

**CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:**

New Format

OTHER INFORMATION:

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