

SHORECHEM, LLC

MATERIAL SAFETY DATA SHEET

Cupric Fluoroborate Solution

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Cupric Fluoborate Solution

OTHER/GENERIC NAMES: Cupric fluoborate, aqueous solution.
Copper fluoborate

PRODUCT CODES: 194-1643

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>
Cupric fluoborate	38465-60-0	45
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 blue liquid with relatively no odor. Harmful if inhaled or swallowed. Causes skin and eye irritation. Not flammable.

POTENTIAL HEALTH HAZARDS

SKIN: Exposure to liquid causes irritation. Prolonged contact will likely result in serious burns.

EYES: Liquid contact causes eye burns. Mist will cause irritation; may cause discoloration.

INHALATION: Can cause congestion of the mucous membranes and pharynx. Extreme cases develop ulceration with perforation of the nasal septum with possible liver damage.

INGESTION: If a sufficient dosage reaches the GI tract, it will act as a severe irritant and corrosive agent, producing salivation, nausea, vomiting, gastric pain, hemorrhagic gastritis, and diarrhea. Hypocalcemia, possibly severe or fatal, may occur due to the fluoride content, which precipitates calcium stored in the body.

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DELAYED EFFECTS: Copper ion may cause anemia, skin irritation and disorders, and eye conjunctivitis. There is no chronic toxicity data on this material, however, NIOSH links inorganic fluoroborates with inorganic fluorides. Chronic exposure to fluorides is associated with osseous fluorosis – increased radiographic density of bones, mottling of teeth, etc. Kidney damage, asthma and symptoms resembling rheumatism may occur. 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. Treat as an acid burn, if severe, and seek medical attention. 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

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

EXTINGUISHING MEDIA:

Use dry sand, 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 cupric fluoroborate, which is corrosive to steel and aluminum.

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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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: (See section 8 for recommended personal protective equipment.)

Using caution, flush spill with water to dilute spill or react it with sodium carbonate or other alkali to neutralize. Provide adequate ventilation to dispose of any carbon dioxide formed. Keep out of sewer by containing spill with readily available material (earth, sand, etc.). 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.

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.

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

SKIN PROTECTION:	Wear protective rubber gloves and protective clothing, if there is repeated or prolonged contact with liquid. Promptly wash any items upon contamination. Promptly remove any non-impervious items upon contamination. After work, change any clothing that may have become contaminated.
EYE PROTECTION:	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.
RESPIRATORY PROTECTION	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

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protection. For high levels, use NIOSH-approved self-contained or supplied-air breathing systems.

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>
Cupric fluoborate (as nickel)	1 mg/m ³ (as Ni) TWA	1 mg/m ³ (as Ni) TWA	-----
Cupric fluoborate (as fluoride)	2.5 mg/m ³ (as F) TWA	2.5 mg/m ³ (as F) TWA	F in urine: 3 mg/g creatinine pre shift, 10 mg/g postshift. ³

¹ = Limit established by Industry Standard.

² = Workplace Environmental Exposure Level (AIHA).

³ = Biological Exposure Index (ACGIH).

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Blue liquid
PHYSICAL STATE:	Liquid
MOLECULAR WEIGHT:	237.14
CHEMICAL FORMULA:	Cu(BF ₄) ₂ + H ₂ O
ODOR:	Essentially odorless.
SPECIFIC GRAVITY (H ₂ O = 1):	1.53
SOLUBILITY IN WATER (weight %):	Complete
pH:	Approx. 2
BOILING POINT:	>212°F (100°C)
MELTING POINT:	<-32°F (0°C)
VAPOR PRESSURE:	Not applicable
VAPOR DENSITY (air= 1.0):	Not applicable
EVAPORATION RATE:	Not applicable
% VOLATILES:	Not applicable
FLASH POINT:	Not applicable

(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.

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INCOMPATIBILITIES:

Cyanides; reactive metals; water-reactive materials; acetylene, hydrazine, nitromethane.

HAZARDOUS DECOMPOSITION PRODUCTS:

Boiling yields a mist containing toxic and corrosive cupric fluoborate.

HAZARDOUS POLYMERIZATION:

Will not occur.

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.

SECTION 12: ECOLOGICAL INFORMATION

No data available

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.

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. (cupric 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

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS: Listed on the TSCA Inventory of Chemical Substances

OTHER TSCA ISSUES: None

SARA TITLE III/ CERCLA

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

INGREDIENT NAME

No ingredients listed in this section.

SARA/CERCLA RQ (LB)

SARA EHS TPQ(LB)

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

Cupric fluoborate

COMMENT

Copper compounds

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

No ingredients listed in this section.

WEIGHT%

COMMENT

ADDITIONAL REGULATORY INFORMATION:

None listed.

WHMIS CLASSIFICATION (CANADA):

Not determined

FOREIGN CHEMICAL CONTROL INVENTORY STATUS

Listed on Canadian DSL and EU EINECS.

SECTION 16: OTHER INFORMATION

CURRENT ISSUE DATE: November 3, 2005

PREVIOUS ISSUE DATE: JANUARY 1, 2005

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

New Format

OTHER INFORMATION: None

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Date Created	Created By	Replaces	Area	Product/ Process	Special
11/3/05	JD	01/01/05	MSDS	Cupric	SRE