

# SAFETY DATA SHEET

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

NANO3D SYSTEMS LLC  
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ATAMI/Bldg. 11, Corvallis, OR 97330  
<https://nano3dsystems.com>  
EMERGENCY NO. 1-800-424-9300 CHEMTREC

MATERIAL NAME: **TIN ELECTROPLATING SOLUTION**

REVISED: April 2016

CHEMICAL FAMILY: Aqueous Acid Solution

Product Number: EP-EC12-SN-100A-01

## SECTION 2. HEALTH HAZARD INFORMATION

### GHS Classifications

H290 Corrosive to metals: Category 1  
H302 Acute toxicity oral : Category 4  
H333 Acute toxicity inhalation : Category 5  
H314 Skin corrosion / skin irritation : Category 1A  
H318 Serious eye damage / Eye irritation : Category 1  
H371 Special target organ systemic toxicity single exposure: Category 2  
H373 Special target organ systemic toxicity repeated exposure : Category 2  
H401 Acute aquatic environmental hazards : Category 2  
H411 Chronic aquatic environmental hazards: Category 2

### Pictograms or Hazard symbols



Warning: May be corrosive to metals



Warning: Harmful if swallowed.



Danger: Causes severe skin burns and eye damage. Causes serious eye damage.



May cause damage to bones.



Toxic to aquatic life with long lasting effects.

May be harmful if inhaled.

### Precautionary Statements

- P234 Keep only in original container.
- P260 Do not breathe fume/gas/mist/vapors.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink, or smoke when using this product.
- P273 Avoid release into the environment.
- P280 Wear protective gloves, clothing, and eye and face protection.
- P301 + P312 If swallowed, call a physician if you feel unwell.
- P301 + P330 + P331 If swallowed, rinse mouth. Do not induce vomiting.
- P303 + P361 + P353 If on skin (or hair) take off immediately all contaminated clothing. Rinse skin with water.
- P304 + P340 If inhaled, remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 If in eyes, rinse cautiously with water for several minutes.
- P310 Seek medical assistance if exposed.
- P314 Get medical advice/attention if you feel unwell.
- P330 Rinse mouth.
- P363 Wash contaminated clothing before reuse.
- P390 Absorb spillage to prevent material damage.
- P391 Collect spillage.
- P405 Store locked up.
- P406 Store in corrosive resistant container.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### SECTION 3.COMPOSITION/INFORMATION ON INGREDIENTS

Material	CAS#	Wt %	
Fluoboric Acid	16872-11-0	5-10	2.5 ppm ACGIH TLV
Tin Fluoborate	13814-97-6	10-15	2 ppm
Boric Acid	10043-35-3	1-5	10 ppm
Gelatin	9000-70-8	< 1	
Water	7732-18-5	75	
Total		100	

### SECTION 4. FIRST AID MEASURES

#### EFFECTS OF OVEREXPOSURE

#### FIRST AID:

**Eye Contact:** Both liquid and vapor are corrosive to naked eye; in case of contact flush eyes well for 15 minutes,

lifting the lower and upper eyelids occasionally. May cause permanent eye damage or blindness. Seek medical attention.

**Skin Contact:** Obtain medical attention: Both liquid and vapor are corrosive to exposed skin. Flush skin well with water for 15 minutes, wash with soap and water. Remove affected clothing, get medical attention. May cause deep, penetrating burns. May cause hypocalcemia which in rare cases is fatal. Special medical treatment is required.

**Inhalation:** If inhaled, remove to fresh air. If not breathing give artificial respiration. Seek medical attention. Inhalation of vapors may cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract. In severe cases, may pulmonary edema, circulatory failure, and death. Depletes calcium levels in the body if not promptly treated, resulting in death.

**Ingestion:** Will cause severe burns to the mouth and severe and permanent damage to the digestive tract. Causes gastrointestinal burns and perforation of the digestive tract. Get Medical Attention immediately. Do not induce vomiting; give large quantities of water. Can affect kidney function and be fatal if swallowed. Severe and possibly fatal hypocalcemia is likely to occur unless medical treatment is promptly initiated.

## **SECTION 5. FIRE FIGHTING MEASURES**

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air	<u>LOWER</u>	<u>UPPER</u>
non-flammable	NA		NA	NA

**Extinguishing media:** Use water spray or suitable agent for surrounding fire. Do not use solid water streams. Acid reacts violently with water and can splatter acid onto personnel.

**Special fire fighting procedures:** Wear chemically retardant gear and NIOSH approved self-contained breathing apparatus. Thermal decomposition produces irritating and toxic fumes. Extreme heat or contact with metals can release flammable hydrogen gas.

Toxic gases released: Hydrogen fluoride, hydrogen gas.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

**SPILLS, LEAKS:** Ventilate area of leak or spill. Stop leak if possible to do so without risk. Clean-up personnel must wear protective clothing and NIOSH approved respirator. Dike and cover the contaminated areas with absorbent, non-combustible material such as earth, sand, or vermiculite. Neutralize with alkaline material such as soda ash or lime. Do not use combustibles. Do not flush to sewer.

## **SECTION 7. HANDLING AND STORAGE**

Wash thoroughly after handling. Remove contaminated clothing and wash before re-use. Do not breathe mist or vapor. Do not expose eyes, skin, or clothing. Keep container closed tightly. Avoid contact with combustibles. Do not use with metal tools or items. Use with adequate ventilation or respiratory protection. Do not store near combustibles or in direct sunlight. Store in a cool, dry, well-ventilated area away from incompatible substances. Separate from metals, alkali, and organics. Residue in empty containers may still be hazardous.

## **SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION**

**Respiratory protection:** Wear NIOSH/MESA approved full or half face piece (with goggles) respiratory protective equipment to avoid exposure to iodine vapors above 0.1ppm. A respiratory protection program complying with requirements of 29CFR 1910.134 is recommended.

**Ventilation:** Where adequate ventilation is not available, use NIOSH approved vapor respirator with dust, fume and mist filters. Local ventilation through fume hoods or laminar flow stations is also preferred. Keep fumes away from strong bases.



Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Fluoboric Acid: LC50, goldfish, 20 mg/L/72h

Boric Acid: LC50, water flea, 115 mg/L/48h

### **SECTION 13. DISPOSAL CONSIDERATIONS**

DISPOSAL: Dispose of in accordance with all federal state and local regulations. Send waste to an approved waste disposal facility. If permitted by regulations, neutralize with alkali.

### **SECTION 14. TRANSPORTATION INFORMATION**

Class 8

PG II

UN3264

Shipping Name: Corrosive Liquids, Acidic, Inorganic, N.O.S. (Tin Fluoborate and Fluoboric Acid)

### **SECTION 15. REGULATORY**

Symbol: C, Corrosive

R-Phrase: 35, causes severe burns

S-Phrases: 23-36/37/39-45 Do not breathe vapor. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### **SECTION 16. OTHER INFORMATION**

NFPA Codes:

Health: 3

Flammability: 0

Reactivity: 0

WHMIS Codes:

Health: 4

Flammability: 0

Reactivity: 0

R35: Causes severe burns.

Ingredients are TSCA listed.