



Material Safety Data Sheet

NFPA



HMIS

| | |
|---------------|---|
| Health Hazard | 2 |
| Fire Hazard | 0 |
| Reactivity | 0 |

Personal Protective Equipment



See Section 15.

Section 1. Chemical Product and Company Identification

Page Number: 1 of 6

| | | | |
|----------------------------|---|--|---|
| Common Name/ Trade Name | Tabun Test | Catalog Number(s). | RE2144 |
| Manufacturer | HazTech Systems, Inc. P.O. Box 929 Mariposa, CA 95338 | CAS# | 7681-49-4 |
| Commercial Name(s) | Not available. | RTECS | WB0350010 |
| Synonym | Sodium Fluoride Powder, Reagent ACS; Sodium Fluoride Powder, USP, EP, BP | TSCA | TSCA 8(b) inventory: Sodium fluoride |
| Chemical Name | Sodium Fluoride | CI# | Not available. |
| Chemical Family | Not available. | <u>IN CASE OF EMERGENCY</u> <u>CHEMTREC (24hr) 800-424-9300</u> | |
| Chemical Formula | NaF | CALL (310) 516-8000 | |
| Supplier | SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248 | | |

Section 2. Composition and Information on Ingredients

| Name | CAS # | Exposure Limits | | | % by Weight |
|--------------------|-----------|--------------------------|---------------------------|---------------------------|-------------|
| | | TWA (mg/m ³) | STEL (mg/m ³) | CEIL (mg/m ³) | |
| 1) Sodium fluoride | 7681-49-4 | 2.5 | | | 100 |

| | | |
|--------------------------------------|--|--|
| Toxicological Data on Ingredients | Sodium fluoride ORAL (LD50): | Acute: 52 mg/kg [Rat]. 57 mg/kg [Mouse]. |
|--------------------------------------|--|--|

Section 3. Hazards Identification

| | |
|-------------------------------------|--|
| Potential Acute Health Effects | Hazardous in case of skin contact (irritant), of eye contact (irritant, corrosive), of ingestion, of inhalation. Slightly hazardous in case of skin contact (corrosive). Severe over-exposure can result in death. |
| Potential Chronic Health Effects | CARCINOGENIC EFFECTS: Classified 3 (Equivocal evidence.) by NTP. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, lungs, the nervous system, heart, gastrointestinal tract, cardiovascular system, bones, teeth. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. |

**Section 4. First Aid Measures**

| | |
|-----------------------------|---|
| Eye Contact | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately. |
| Skin Contact | In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. |
| Serious Skin Contact | Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention. |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| Serious Inhalation | Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention. |
| Ingestion | If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. |
| Serious Ingestion | Not available. |

Section 5. Fire and Explosion Data

| | |
|--|--|
| Flammability of the Product | Non-flammable. |
| Auto-Ignition Temperature | Not applicable. |
| Flash Points | Not applicable. |
| Flammable Limits | Not applicable. |
| Products of Combustion | Not available. |
| Fire Hazards in Presence of Various Substances | Not applicable. |
| Explosion Hazards in Presence of Various Substances | Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat. |
| Fire Fighting Media and Instructions | Not applicable. |
| Special Remarks on Fire Hazards | Not available. |
| Special Remarks on Explosion Hazards | Containers may explode when heated |

Section 6. Accidental Release Measures

| | |
|--------------------|--|
| Small Spill | Use appropriate tools to put the spilled solid in a convenient waste disposal container. |
| Large Spill | Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities. |

**Tabun Test**

Page Number: 3 of 6

Section 7. Handling and Storage

| | |
|--------------------|---|
| Precautions | Keep locked up.. Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, moisture. |
| Storage | Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F). |

Section 8. Exposure Controls/Personal Protection

| | |
|---|---|
| Engineering Controls | Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. |
| Personal Protection | Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. |
| Personal Protection in Case of a Large Spill | Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. |
| Exposure Limits | TWA: 2.5 (mg/m ³) from NIOSH Consult local authorities for acceptable exposure limits. |

Section 9. Physical and Chemical Properties

| | | | |
|--------------------------------------|----------------------------------|--------------|-----------|
| Physical state and appearance | Solid. (Crystals solid.) | Odor | Odorless. |
| Molecular Weight | 41.99 g/mole | Taste | Salty |
| pH (1% soln/water) | Not available. | Color | White. |
| Boiling Point | 1700°C (3092°F) | | |
| Melting Point | 993°C (1819.4°F) | | |
| Critical Temperature | Not available. | | |
| Specific Gravity | 2.78 (Water = 1) | | |
| Vapor Pressure | Not applicable. | | |
| Vapor Density | Not available. | | |
| Volatility | Not available. | | |
| Odor Threshold | Not available. | | |
| Water/Oil Dist. Coeff. | Not available. | | |
| Ionicity (in Water) | Not available. | | |
| Dispersion Properties | See solubility in water. | | |
| Solubility | Partially soluble in cold water. | | |

Section 10. Stability and Reactivity Data

| | |
|--|--|
| Stability | The product is stable. |
| Instability Temperature | Not available. |
| Conditions of Instability | Incompatible materials, dust generation, excess heat, moisture |
| Incompatibility with various substances | Reactive with oxidizing agents, acids, moisture. |

**Tabun Test**

Page Number: 4 of 6

| | |
|---------------------------------------|--|
| Corrosivity | Corrosive in presence of aluminum. Non-corrosive in presence of glass. |
| Special Remarks on Reactivity | Possibly moisture sensitive. Contact with metals may evolve flammable hydrogen gas. Sodium reacts with acids to form hydrogen fluoride. Alkali fluorides (except lithium salt) absorb Sodium Fluoride to form acid fluorides. |
| Special Remarks on Corrosivity | Not available. |
| Polymerization | Will not occur. |

Section 11. Toxicological Information

| | |
|---|---|
| Routes of Entry | Inhalation. Ingestion. |
| Toxicity to Animals | Acute oral toxicity (LD50): 52 mg/kg [Rat]. |
| Chronic Effects on Humans | CARCINOGENIC EFFECTS Classified 3 (Equivocal evidence.) by NTP. MUTAGENIC EFFECTS Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May cause damage to the following organs: kidneys, lungs, the nervous system, heart, gastrointestinal tract, cardiovascular system, bones, teeth. |
| Other Toxic Effects on Humans | Hazardous in case of skin contact (irritant), of eye contact (corrosive), of ingestion, of inhalation. Slightly hazardous in case of skin contact (corrosive). |
| Special Remarks on Toxicity to Animals | Not available. |
| Special Remarks on Chronic Effects on Humans | May cause adverse reproductive effects (fertility, fetotoxicity), and birth defects based on animal data. May cause cancer based on animal data. May cause genetic (mutagenic) and tumorigenic effects. |
| Special Remarks on other Toxic Effects on Humans | Acute Potential Health Effects: Skin: Causes skin irritation and possible burns, especially if skin is wet or moist. Eyes: Causes eye irritation and burns. May cause chemical conjunctivitis and corneal damage. Ingestion: Harmful if swallowed. Causes digestive (gastrointestinal) tract irritation and burns. May cause severe and permanent damage to the digestive. Ingestion of large amounts may cause salivation, nausea vomiting and abdominal pain. May affect behavior, cardiovascular system, urinary system, liver brain, metabolism, teeth, bones, and blood. Inhalation: Causes irritation and chemical burns of the respiratory tract with coughing, breathing difficulty and possibly nasal septum perforation and coma. May affect bones. Chronic Potential Health Effects: Chronic inhalation and ingestion may cause fluorosis with skeletal (bones and teeth) abnormalities. Chronic inhalation may cause lung damage. |

Section 12. Ecological Information

| | |
|--|---|
| Ecotoxicity | Not available. |
| BOD5 and COD | Not available. |
| Products of Biodegradation | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. |
| Toxicity of the Products of Biodegradation | The products of degradation are less toxic than the product itself. |
| Special Remarks on the Products of Biodegradation | Not available. |

**Tabun Test**

Page Number: 5 of 6

Section 13. Disposal Considerations

Waste Disposal Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification CLASS 6.1: Poisonous material.

Identification : Sodium fluoride UNNA: 1690 PG: III

Special Provisions for Transport Not available.

DOT (Pictograms)

**Section 15. Other Regulatory Information and Pictograms**

Federal and State Regulations New York release reporting list: Sodium fluoride
Rhode Island RTK hazardous substances: Sodium fluoride
Pennsylvania RTK: Sodium fluoride
Massachusetts RTK: Sodium fluoride
California Director's List of Hazardous Substances: Sodium fluoride
TSCA 8(b) inventory: Sodium fluoride
TSCA 8(a) PAIR: Sodium fluoride
CERCLA: Hazardous substances.: Sodium fluoride: 1000 lbs. (453.6 kg)

California Proposition 65 Warnings

Other Regulations OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications **WHMIS (Canada)** CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC) R25- Toxic if swallowed. S22- Do not breathe dust.
R32- Contact with acids liberates very toxic gas. S36- Wear suitable protective clothing.
R36/38- Irritating to eyes and skin. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.)

| | |
|---------------------|---|
| Health Hazard | 2 |
| Fire Hazard | 0 |
| Reactivity | 0 |
| Personal Protection | E |

National Fire Protection Association (U.S.A.)

Flammability

| | | | |
|-----------------|---|---|------------|
| Health | 2 | 0 | Reactivity |
| Specific hazard | | | |

WHMIS (Canada) (Pictograms)



**Tabun Test**

Page Number: 6 of 6

DSCL (Europe)
(Pictograms)TDG (Canada)
(Pictograms)ADR (Europe)
(Pictograms)

Protective Equipment



Gloves.



Lab coat.



Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Splash goggles.

Section 16. Other InformationMSDS Code **S4030**

References Not available.

Other Special
Considerations Not available.

Validated by R. Turkington

Verified by R. Turkington

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.