

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 10/16/2014

Reviewed on 10/16/2014

*** 1 Identification****· Product identifier****· Trade name: VeriFit Irritant Smoke Generators****· Product number:** P/N 50811000-310N & P/N 90095**· CAS Number:**

7646-78-8

· EC number:

231-588-9

· Index number:

050-001-00-5

· Product description

Irritant smoke generator, designed for Irritant Smoke Qualitative Fit Testing as specified by the U.S. Occupational Safety and Health Administration (OSHA).

· Application of the substance / the mixture

Dangerous To Life: Read, understand and comply with all instructions, warnings, labels, and other literature accompanying this product before attempting to use or using this product. Use this product strictly in accordance with the manufacturer's instructions, specifications, and warnings and only with the manufacturer's specified parts, components, and accessories.

Class of Users: This product is only for sale to, only for use by, and only for storage by trained, qualified, technically competent, and professional commercial, industrial, military, or government users.

ASSISTANCE: IF THE USER IS CONFUSED ABOUT THE PROPER USE OF THE SMOKE TUBE / GENERATOR, ANY INSTRUCTIONS, WARNINGS, LABELS, OR THE MANUAL, THE USER SHOULD CONTACT NEXTTEQ LLC FOR ASSISTANCE PRIOR TO USING THE PRODUCT. NEXTTEQ'S TOLL-FREE NUMBER IS: (877) 312-2333; LOCAL NUMBER IS (813) 249-5888.

· Details of the supplier of the safety data sheet**· Manufacturer/Supplier:**

Nextteq LLC

8406 Benjamin Rd, Ste J

Tampa, FL 33634

877-312-2333

www.nextteq.com

· Emergency telephone number: 877-312-2333*** 2 Hazard(s) identification****· Classification of the substance or mixture**

GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

· Additional information:

Stannic chloride reacts with ambient humidity to liberate a white smoke consisting of hydrogen chloride (HCl) and tin compounds. The emitted smoke has a strong irritating odor.

· Label elements**· GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 2)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 10/16/2014

Reviewed on 10/16/2014

Trade name: VeriFit Irritant Smoke Generators

(Contd. of page 1)

Hazard pictograms



GHS05

Signal word Danger

Hazard-determining components of labeling:

stannic chloride

Hazard statements

Causes severe skin burns and eye damage.

Precautionary statements

Do not breathe dusts or mists.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash thoroughly after handling.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)



Health = 3

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 3

Fire = 0

Reactivity = 0

*** 3 Composition/information on ingredients**

Chemical characterization: Substances

CAS No. Description

7646-78-8 stannic chloride (<0.5 ml in each VeriFit Irritant Smoke Generator)

Identification number(s)

EC number: 231-588-9

Index number: 050-001-00-5

Additonal information:

Stannic chloride reacts with ambient humidity to liberate a white smoke consisting of hydrogen chloride (HCl) and tin compounds. The emitted smoke has a strong irritating odor.

(Contd. on page 3)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 10/16/2014

Reviewed on 10/16/2014

Trade name: VeriFit Irritant Smoke Generators

(Contd. of page 2)

* 4 First-aid measures

· **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** In case of unconsciousness, place patient securely on side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.

· **Most important symptoms and effects, both acute and delayed**

Effects of Overexposure:

Hydrogen chloride gas is corrosive. Prolonged inhalation of gas concentrations moderately above the ACGIH: TLV ceiling of 2 ppm can irritate nasal passages. Inhalation of higher concentrations (above 2 ppm) for short periods of time can cause choking and coughing, and produce severe irritation to the mucous membranes of the upper respiratory tract. The NIOSH-recommended IDLH level is 50 ppm. HCl can cause severe irritation and tissue burns. If deeply inhaled, pulmonary edema may occur.

The emitted tin compound is also an irritant to eyes, skin and mucous membranes, due to its acidity.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

* 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture**

Fire encompassing the tubes will emit toxic fumes of chlorides. Violently reacts with water to generate heat. Generates smoke with moisture in air. Mixing with alkali metal may result in an explosion.

· **Advice for firefighters**

If there is a fire around the area where tubes are stored, move the tubes or cool the tubes by dousing with a large amount of water. Do not put water on tubes that have been crushed or broken.

· **Protective equipment:** Wear SCBA if there is danger of leakage.

* 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (ie. sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

* 7 Handling and storage

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

(Contd. on page 4)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 10/16/2014

Reviewed on 10/16/2014

Trade name: VeriFit Irritant Smoke Generators

(Contd. of page 3)

- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

*** 8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

Components with occupational exposure limits:	
7646-78-8 stannic chloride	
PEL	Long-term value: 2 mg/m ³ as Sn
REL	Long-term value: 2 mg/m ³ as Sn
TLV	Long-term value: 2 mg/m ³ as Sn

- **Additional information:**
The lists that were valid during the creation were used as basis.
Hydrogen chloride gas is corrosive. Prolonged inhalation of gas concentrations moderately above the ACGIH: TLV ceiling of 2 ppm can irritate nasal passages. Inhalation of higher concentrations (above 2 ppm) for short periods of time can cause choking and coughing, and produce severe irritation to the mucous membranes of the upper respiratory tract. The NIOSH-recommended IDLH level is 50 ppm. HCl can cause severe irritation and tissue burns. If deeply inhaled, pulmonary edema may occur.
The emitted tin compound is also an irritant to eyes, skin and mucous membranes, due to its acidity.

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- **Breathing equipment:**
If voluntary use of respiratory protection is used, select an air purifying respirator equipped with either P100 or acid gas cartridges for protection against hydrogen chloride fumes that are generated with the use of this product.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Select glove material based on penetration times, rates of diffusion and degradation.

(Contd. on page 5)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 10/16/2014

Reviewed on 10/16/2014

Trade name: VeriFit Irritant Smoke Generators

(Contd. of page 4)

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

· **Eye protection:** Tightly sealed goggles

* 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

General Information

Opaque plastic tube with small integrated bellows pump and internal sealed ampoule of liquid stannic chloride.

· **Appearance:**

Form:

Liquid

Color:

Colorless

· **Odor:**

Characteristic

· **Odor threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**

Melting point/Melting range:

-33.3 °C (-28 °F)

Boiling point/Boiling range:

114 °C (237 °F)

· **Flash point:**

Not applicable.

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

Decomposition temperature:

Not determined.

· **Auto igniting:**

Not determined.

· **Danger of explosion:**

Product does not present an explosion hazard.

· **Explosion limits:**

Lower:

Not determined.

Upper:

Not determined.

· **Vapor pressure @ 20 °C (68 °F):**

24 hPa (18 mm Hg)

· **Density @ 20 °C (68 °F):**

2.23 g/cm³ (18.609 lbs/gal)

· **Relative density**

Not determined.

· **Vapour density**

Not determined.

· **Evaporation rate**

Not determined.

· **Solubility in / Miscibility with**

Water:

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic:

Not determined.

Kinematic:

Not determined.

Organic solvents:

0.0 %

· **Other information**

No further relevant information available.

(Contd. on page 6)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 10/16/2014

Reviewed on 10/16/2014

Trade name: VeriFit Irritant Smoke Generators

(Contd. of page 5)

*** 10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
SnCl₄ decomposes upon exposure to moist air or water. HCl is a stable compound. It does not undergo hazardous polymerization; however, HCl can catalyze polymerization of other compounds.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Reacts with turpentine, alcohols, and amines causing a potential fire hazard.
- **Incompatible materials:**
Incompatible materials include alkali compounds, amines, metal oxides, hydroxides, copper, brass, zinc, other metals, turpentine, and alcohols. Mixing with alkali metals may result in an explosion.
- **Hazardous decomposition products:**
When heated to decomposition, the smoke tubes will emit chloride fume.

*** 11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Corrosive effect.
- **Additional toxicological information:**
Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

Substance is not listed.

· **NTP (National Toxicology Program)**

Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

*** 12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Generally not hazardous for water
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

(Contd. on page 7)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 10/16/2014

Reviewed on 10/16/2014

Trade name: VeriFit Irritant Smoke Generators

(Contd. of page 6)

· **Other adverse effects** No further relevant information available.

*** 13 Disposal considerations**

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:**

i) Used items that no longer generate smoke do not need any special cleaning before disposal.

ii) Used items should not be disposed of until they no longer generate smoke, or are neutralized using water and sodium carbonate (or equivalent alkaline substance).

iii) Unused items should not be disposed of until the stannic chloride ampoule is broken and they are either allowed to fully react until they no longer smoke, or are neutralized using water and sodium carbonate (or equivalent alkaline substance).

Consult local authorities to assure compliance with all local, state, and federal law and regulations, including but not limited to EPA regulations.

*** 14 Transport information**

· **UN-Number**

· **DOT, ADR, IMDG, IATA**

UN1827

· **UN proper shipping name**

· **DOT**

Stannic chloride, anhydrous

· **ADR**

UN1827 Stannic chloride, anhydrous

· **IMDG, IATA**

STANNIC CHLORIDE, ANHYDROUS

· **Transport hazard class(es)**

· **DOT**



Consumer Commodity

· **Class**

8 Corrosive substances

· **Label**

8

· **ADR**



Consumer Commodity

· **Class**

8 (C1) Corrosive substances

(Contd. on page 8)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 10/16/2014

Reviewed on 10/16/2014

Trade name: VeriFit Irritant Smoke Generators

(Contd. of page 7)

· **Label** 8

· **IMDG, IATA**



Consumer Commodity

· **Class** 8 Corrosive substances
 · **Label** 8
 · **Packing group**
 · **DOT, ADR, IMDG, IATA** II
 · **Environmental hazards:**
 · **Marine pollutant:** No
 · **Special precautions for user** Warning: Corrosive substances
 · **Danger code (Kemler):** X80
 · **EMS Number:** F-A,S-B
 · **Segregation groups** Acids
 · **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT** Ground Transportation – 49 CFR 173.4 small quantity exception for net inner packings with less than 1-liter of liquid stannic chloride. Each individual VeriFit Irritant Smoke Generator contains <0.5 ml liquid stannic chloride so this exception applies to net inner packings of up to 2000 individual VeriFit Irritant Smoke Generators.

· **IATA** Air Transportation – IATA excepted quantity for net inner packings with less than 500 ml of liquid stannic chloride. Each individual VeriFit Irritant Smoke Generator contains <0.5 ml liquid stannic chloride so this exception applies to net inner packings of up to 1000 individual VeriFit Irritant Smoke Generators.

· **UN "Model Regulation":** UN1827, Stannic chloride, anhydrous, 8, II

***15 Regulatory information**

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 · **Sara**

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

· **TSCA (Toxic Substances Control Act):**

Substance is listed.

(Contd. on page 9)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 10/16/2014

Reviewed on 10/16/2014

Trade name: VeriFit Irritant Smoke Generators

(Contd. of page 8)

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05

· **Signal word** Danger

· **Hazard-determining components of labeling:**

stannic chloride

· **Hazard statements**

Causes severe skin burns and eye damage.

· **Precautionary statements**

Do not breathe dusts or mists.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash thoroughly after handling.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

Substance is not listed.

(Contd. on page 10)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 10/16/2014

Reviewed on 10/16/2014

Trade name: VeriFit Irritant Smoke Generators

(Contd. of page 9)

· State Right to Know			
7646-78-8	stannic chloride	Skin Corr. 1B, H314	≤ 2.5%
Substance is not listed.			

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* 16 Other information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Recommended restriction of use**

Other Precautions: Avoid eye and skin contact with smoke. Do not directly breathe the smoke. Avoid the buildup of smoke. Use in a well-ventilated area. Do not use under a hood or in a confined space. Do not blow smoke directly into anyone's unprotected face or eyes. Test only one person at a time. Do not blow smoke between test subjects. Immediately after using the smoke tube or being exposed to the smoke, scrub face, hands, and any area exposed to the smoke with soap and clean running water and always before eating, drinking, smoking, applying cosmetics, or inserting or removing contact lenses.

Do not use this product for respirator fit testing or a "Sensitivity Check" if any of the following conditions is present:

- a) The test subject has pre-existing respiratory, cardiovascular, bronchial, or sinus medical condition.
- b) The test subject is under a physician's care for respiratory, cardiovascular, bronchial, or sinus problems.
- c) The test subject is being treated for allergies, hypersensitivity, or asthma or has a pre-existing allergy, hypersensitivity, or other condition.
- d) The test subject is allergic to or hypersensitive to hydrogen chloride, stannic chloride, stannic oxide, stannic dioxide, tin tetrachloride, tin compounds, hydrochloric acid, or metal chloride.

· **Date of preparation / last revision** 10/16/2014 / 5

· **Abbreviations and acronyms:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- EINECS: European Inventory of Existing Commercial Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B