

**IGX Group, Inc.**  
**Material Safety Data Sheet – STAYFILL**

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The MSDS format adheres to the standards and regulatory requirements of the United States and may not meet regulatory requirements in other countries.

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**STAYFILL™**

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**1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION**

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**SUBSTANCE:** Trifluoroiodomethane, Carbon dioxide mixture  
**CHEMICAL FAMILY:** Halogenated, inorganic gas mixture  
**FORMULA:** CF<sub>3</sub>I, CO<sub>2</sub>  
**SYNONYMS:** Trifluoromethyl Iodide; Iodotrifluoromethane; Monoiodotrifluoromethane; Perfluoromethyl Iodide

**COMPANY IDENTIFICATION**

**Manufacturer/Distributor**

IGX Group, Inc.  
490 Post St., Suite 1700  
San Francisco, CA 94102

**Corporate MSDS Number:** IGX001016

**Phone Numbers**

Product Information: 1-415-856-0570  
Transport Emergency: CHEMTREC 1-800-424-9300  
(Outside U.S. 703-527-3887)

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

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**Components**

Trifluoroiodomethane	(0.1-99.0%).	<b>CAS Number:</b> 2314-97-8
Carbon Dioxide	(0.1-99.0%).	<b>CAS Number:</b> 124-38-9

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**3. HAZARD IDENTIFICATION**

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**NFPA RATINGS (SCALE 0-4):** HEALTH=1; FIRE=0; REACTIVITY=0

**EMERGENCY OVERVIEW**

**COLOR:** colorless

**PHYSICAL FORM:** gas

**ODOR:** Odorless

**MAJOR HEALTH HAZARDS:** Difficulty breathing, respiratory tract irritation, skin irritation, eye irritation

**PHYSICAL HAZARDS:** Containers may rupture or explode if exposed to heat.

**POTENTIAL HEALTH EFFECTS:**

**SKIN:** Direct contact with the liquefied material or escaping compressed gas may cause frostbite injury.

**EYES:** Direct contact with the liquefied material or escaping compressed gas may cause frostbite injury.

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**INHALATION:** The components of STAYFILL™ have a low order of toxicity, but may act as an asphyxiant if oxygen is reduced to below 16%, as indicated by paleness and possible cyanosis (blue skin).

**INGESTION:** Not applicable (gas at normal conditions).

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#### **4. FIRST AID MEASURES**

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**INHALATION:** If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

**SKIN CONTACT:** If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

**EYE CONTACT:** Flush eyes with plenty of water.

**INGESTION:** If a large amount is swallowed, get medical attention.

**NOTE TO PHYSICIAN:** For inhalation, consider oxygen.

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

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**FIRE AND EXPLOSION HAZARDS:** Negligible fire hazard. Containers may rupture or explode if exposed to heat.

**EXTINGUISHING MEDIA:** Use extinguishing agents appropriate for surrounding fire.

**FIRE FIGHTING:** Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks or cartridges. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Use extinguishing agents appropriate for surrounding fire. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Do not get water directly on material. Reduce vapors with water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.

**FLASH POINT:** not flammable

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

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**OCCUPATIONAL RELEASE:**

Stop leak if possible without personal risk. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

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## 7. HANDLING AND STORAGE

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**STORAGE:** Store and handle in accordance with all current regulations and standards. Store below 49 C. Avoid shock. Store in a well-ventilated area. Store in a tightly closed container. Keep separated from incompatible substances. Secure to prevent tipping. Keep away from heat, sparks and flame. Store in a cool, dry place. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.

**HANDLING:** Avoid breathing gas. Use only with adequate ventilation.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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**EXPOSURE LIMITS: TRIFLUOROIODOMETHANE:**

No occupational exposure limits established

**EXPOSURE LIMITS: CARBON DIOXIDE:**

1000 ppm (9000 mg/m<sup>3</sup>) OSHA TWA

1000 ppm ACGIH TWA

1000 ppm (6000 mg/m<sup>3</sup>) NIOSH recommended TWA 10 hour(s)

**VENTILATION:** Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

**EYE PROTECTION:** For the gas: Eye protection is not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**CLOTHING:** For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective cold insulating clothing.

**GLOVES:** Wear insulated gloves.

**PROTECTIVE MATERIAL TYPES:** leather

**RESPIRATOR:** Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

**For Unknown Concentrations or Immediately Dangerous to Life or Health**

-Any supplied-air respirator with full face piece and operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

-Any self-contained breathing apparatus that has a full face piece and is operated in a pressure-demand or other positive-pressure mode.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**PHYSICAL STATE:** gas

**COLOR:** colorless

**ODOR:** odorless

**MOLECULAR WEIGHT:** 146.06

**MOLECULAR FORMULA:** C-F3-I;

**BOILING POINT:** 147°F (63.9°C) @ 101.3 kPa

**FREEZING POINT:** -58.9°F (-50.5°C)

**SUBLIMATION POINT:** -83°F (-63.8°C)

**VAPOR PRESSURE:** 16548 mmHg @ 20°C

**VAPOR DENSITY (air=1):** 5.1 @ 1 atm @ 21.1°C

**WATER SOLUBILITY:** slightly soluble

**SPECIFIC GRAVITY (water=1):** 1.68

**pH:** Not applicable

**VOLATILITY:** 100%

**VOLATILITY BY VOLUME:** 100%

**ODOR THRESHOLD:** Not available

**EVAPORATION RATE:** Not applicable

**VISCOSITY:** 0.0156 cP @ 25°C

**COEFFICIENT OF WATER/OIL DISTRIBUTION:** Not applicable

**SOLVENT SOLUBILITY:**

**Soluble:** alcohol, ether, potassium hydroxide solutions, transformer oil

**Slightly Soluble:** ethanol

**Insoluble:** hydrochloric acid, ammonia

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## 10. STABILITY AND REACTIVITY

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**REACTIVITY:** Stable at normal temperatures and pressure.

**CONDITIONS TO AVOID:** Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.

**INCOMPATIBILITIES:** combustible materials, metals, oxidizing materials

**HAZARDOUS DECOMPOSITION:**

Thermal decomposition products or combustion: fluorinated compounds, oxides of sulfur, sulfur compounds, hydrogen fluoride, hydrogen sulfide

**POLYMERIZATION:** Will not polymerize.

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## 11. TOXOLOGICAL INFORMATION

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**TRIFLUOROIODOMETHANE:**

**ACUTE TOXICITY LEVEL:** LD<sub>50</sub> (rabbit): intravenous, 5790 mg/kg

**CARBON DIOXIDE:**

**ACUTE TOXICITY LEVEL:** 150,000 ug/L 48 day(s) (Mortality) Brown trout (Salmo trutta)

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## 12. ECOLOGICAL INFORMATION

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### FATE AND TRANSPORT:

**KOW:** 47.867 (log =1.68)

**KOC:** 195 (log = 2.29) estimated

**HENRY'S LAW CONSTANT:** 4.5

**ENVIRONMENTAL SUMMARY:** Leaches through the soil or the sediment at a moderate rate. Highly volatile from water.

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## 13. DISPOSAL CONSIDERATIONS

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Dispose in accordance with all applicable regulations.

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## 14. TRANSPORTATION INFORMATION

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### U.S. DOT 49 CFR 172.101:

**PROPER SHIPPING NAME:** Compressed gas, n.o.s. (Trifluoroiodomethane, Carbon dioxide)

**CLASS NUMBER/DIVISION:** 2.2

**UN IDENTIFICATION NUMBER** UN1956

**PACKING GROUP:** (none)

**LABELING REQUIREMENTS:** 2.2

### CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

**SHIPPING NAME:** Compressed gas, n.o.s. (Trifluoroiodomethane, Carbon dioxide)

**UN NUMBER:** UN1956

**CLASS:** 2.2

**PACKING GROUP/RISK GROUP:** (none)

**CAUTION:** Compressed gas cylinders shall not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with the owner's written consent is a violation of Federal law (49 CFR 173.301).

**NAERG (NORTH AMERICAN EMERGENCY RESPONSE GUIDE) #: 126**

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## 15. REGULATORY INFORMATION

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### U.S. FEDERAL REGULATIONS:

#### EPA - ENVIRONMENTAL PROTECTION AGENCY

**CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):** Not regulated.

**SARA TITLE III: SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):**  
not regulated.

**SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):**  
Not regulated.

**SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):**

**ACUTE:** Yes    **CHRONIC:** No    **FIRE:** No    **REACTIVE:** No

**SUDDEN RELEASE:** Yes

**SARA TITLE III SECTION 313 (40 CFR 372.65):** Not regulated.

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**OSHA PROCESS SAFETY (29 CFR1910.119):**  
**STAYFILL™ Components:** Not regulated

**STATE REGULATIONS:**  
**California Proposition 65:** Not regulated

**CANADIAN REGULATIONS:**  
**WHMIS CLASSIFICATION:** A

**NATIONAL INVENTORY STATUS:**  
**U.S. INVENTORY (TSCA):** Listed on inventory.  
**TSCA 12(b) EXPORT NOTIFICATION:** Not listed.  
**CANADA INVENTORY (DSL/NDL):** Listed on DSL.

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## 16. OTHER INFORMATION

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The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

<b>Responsibility for MSDS:</b>	<b>MSDS Coordinator,</b> <b>IGX Group, Inc.</b>
<b>Address:</b>	<b>490 Post St, #1700</b> <b>San Francisco, CA 94102</b>
<b>Telephone:</b>	<b>415-856-0570</b>

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

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End of MSDS

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