

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name: **FluoSolv™ CF-200**

Product Number:

CAS Number: 69991-67-9

COMPANY IDENTIFICATION

NuGeneration Technologies, LLC

www.nugentec.com

1155 Park Avenue, Emeryville, CA 94608 USA

(888) 996-8436 (For information)

(510) 962-9551 (NuGenTec Safe-T-Chem: For emergencies)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Amount	CAS Number
Propene, 1,1,2,3,3,3-hexafluoro, oxidized, polymerized	100%	69991-67-9

(See Section 8 for exposure guidelines) (See Section 15 for regulatory information)

HAZARDS DISCLOSURE: Clear, colorless liquid. Thermal decomposition will generate hydrogen fluoride (HF), which is corrosive. This product contains hazardous materials as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200. As defined under Sara 311 and 312, this product contains materials that are acute, reactive hazards.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: DANGER

Clear, colorless liquid. Thermal decomposition will generate hydrogen fluoride (HF), which is corrosive.

HMIS Rating: Health: 1
Flammability: 0
Reactivity: 0
Personal Protection Index: C

NFPA Rating: Health: 1
Flammability: 0
Reactivity: 0
Special Hazard: None

NFPA/HMIS Definitions: (0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

POTENTIAL HEALTH EFFECTS

EYE: Contact causes slight eye irritation

SKIN: Contact may cause slight skin irritation.

INHALATION: Inhalation of vapors or mists may cause respiratory tract irritation.

INGESTION: No ill effects are expected.

4. FIRST AID MEASURES

EYE CONTACT FIRST AID: Flush eye for 15 minutes with copious amounts of water, retracting eyelids often. Contact a physician.

SKIN CONTACT FIRST AID: Wash skin with plenty of soap and water. Remove contaminated clothing and shoes.

INHALATION FIRST AID: If Symptoms of irritation discomfort or overcome by exposure, remove affected person to fresh air. Give oxygen or artificial respiration as needed.

INGESTION FIRST AID: If conscious, drink three to four 8 ounce glasses of water or milk. Call a physician. If unconscious, immediately take affected person to a hospital. Do not give anything by mouth to an unconscious person.

STATEMENT OF PRACTICAL TREATMENT: Always have plenty of water available for first aid.

NOTES TO PHYSICIAN: Treat patient symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: COC Flash Point: None TCC Flash Point: None
Auto-ignition Temperature: None

FLAMMABLE LIMITS IN AIR: LEL: None UEL: None

EXTINGUISHING MEDIA: Water (spray or fog), foam, dry chemical or carbon dioxide (CO²).

UNUSUAL FIRE HAZARDS: Fluoropolymers will degrade upon prolonged heating or in a fire, liberating carbonyl fluoride and hydrogen fluoride (HF). This gas is toxic if inhaled or it comes into contact with moist skin. HF has an ACGIH TLV ceiling limit OF 3 ppm (2.6 mg/m³) and an OSHA PEL TWA 00 ppm. Carbonyl fluoride has an ACGIH TL V TWA and OSHA PEL TWA of 2 ppm (5 mg/m³).

FIRE FIGHTING INSTRUCTIONS: Use self-contained breathing apparatus (SCBA) and skin protection for acid gas exposure. Do not enter fire area without proper protection. Fight fire from safe distance. If possible, air monitoring should be performed.

6. ACCIDENTAL RELEASE MEASURES

INITIAL CONTAINMENT: Contain spilled material.

SPILLS PROCEDURE: In case of a release or spill, absorb material onto vermiculite or similar inert absorbent. Use Perfluorosolv0 PFS-I as an aid in cleaning. Place spilled material into covered container for disposal. Dispose of according to applicable local, state and federal regulations. Extinguish all ignition sources and evacuate the area. Exercise caution; spill area may be slippery.

7. HANDLING AND STORAGE

STORAGE PRECAUTIONS: Wash hands after use and before handling food or applying cosmetics. Do not use tobacco products in the immediate area. Keep containers closed. Keep away from heat, sparks and flames. Do not store near combustible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ACGIH THRESHOLD LIMIT VALUE (8 hr. time weighted average): None established

OSHA PERMISSIBLE EXPOSURE LIMIT VALUE (8 hr. time weighted average): None established

ENGINEERING CONTROLS: Local Exhaust: Vent vapors or mists generated by processing away from operating personnel. Local exhaust ventilation at a rate of 50 feet per minute.

EYE / FACE PROTECTION REQUIREMENTS: Eye/Face Protection: ANSI Z87.1 approved safety glasses with side shields or equivalent.

SKIN PROTECTION REQUIREMENTS: Rubber or latex recommended but not necessary.

RESPIRATORY PROTECTION REQUIREMENTS: No occupational exposure standards have been developed for this material. In situations where exposure to vapors or mists is likely, NIOSH/MSHA approved respirators are recommended. Respirator use limitations made by NIOSH/MSHA or the manufacturer must be observed. Respiratory protection programs must be in accordance with 29 CFR 1910.134.

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM	Liquid
COLOR	Colorless
ODOR	Odorless
VAPOR PRESSURE, torr	<1
KINEMATIC VISCOSITY, cSt, 25C	2.4
BOILING POINT, °C	200
SOLUBILITY OF WATER, ppm(wt)	14
SPECIFIC GRAVITY	1.79
AVG. MOLECULAR WEIGHT	870
HEAT OF VAPORIZATION@ Bp,	15 cal/gm
MOLECULAR FORMULA	$CF^3-[(O-CF-CF^3-CF^2)_n-(O-CF^2)_m]-O-CF^3$
% VOLATILE BY VOLUME	0

10. STABILITY AND REACTIVITY

STABILITY: Stable.

POLYMERIZATION: N/A

INCOMPATIBILITY WITH OTHER MATERIALS: Strong or non-aqueous alkali and Lewis acids above 100°C/212°F. Alkali metals and halogenated compounds.

DECOMPOSITION: Thermal decomposition of this product will generate hydrogen fluoride (HF), which is corrosive, causing burns on contact with skin and other tissue.

CONDITIONS TO AVOID: Heat, sparks, flames, and other ignition sources; avoid heating above 290°C/554°F.

11. TOXICOLOGICAL INFORMATION

Rat oral LD50: greater than 25.65 g/kg

Rat intraperitoneal LD50: greater than 25 g/kg

Rat dermal LD50: greater than 2 g/kg

Rabbit skin irritation: not irritating

Rabbit eye irritation: not irritating

Guinea pig sensitization: not a sensitizer

12. ECOLOGICAL INFORMATION

No information available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Material, as supplied, is not a hazardous waste. Landfill according to current federal, state and local regulations, or incinerate in a high-temperature incinerator designed to burn fluorine-containing materials. Processing, use or contamination may make this information inaccurate or incomplete.

14. TRANSPORTATION INFORMATION

Shipping Class: Not regulated by DOT.

15. REGULATORY INFORMATION

All components of this product are listed on the Toxic Substances Control Act (TSCA) Section 8(b) Chemical Inventory and the Canadian Environmental Protection Act (CEPA) provisional domestic substances list (DSL). This product is not a "hazardous substance" as defined by OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is not a "controlled product" as defined by the Canadian Workplace Hazardous Materials Information System (WHMIS).

SARA Section 302 Extremely Hazardous Substances: Not listed

SARA 311/312:

Acute:	No
Chronic:	No
Fire:	No
Reactivity:	No
Sudden Release of Pressure:	No

SARA Section 313 *Toxic* Chemicals: Not listed

16. OTHER INFORMATION

PREPARED BY: MSDS Authoring Services
SUPERCEDES DATE: None

APPROVAL DATE: December 15, 2011
PRD NUMBER: (Official Copy)

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

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