

# MATERIAL SAFETY DATA SHEET

*Product Name:* Ultrajet  
*Catalog Number:* 13032, 13034  
*DOT Hazard Class:* Non-flammable gas (2.2)  
*DOT Proper Shipping Name:* 1,1,1,2-Tetrafluoroethane  
*UN/NA ID No.:* UN 3159  
*MSDS Updated:* 9/2011

*Distributed By:* Ladd Research  
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## HAZARDOUS COMPONENTS

	<i>CAS Number</i>	<i>Percent</i>	<i>Exposure Limits</i>
1,1,1,2-Tetrafluoroethane	811-97-2	100%	1000 ppm AEL (DuPont)

## PHYSICAL AND CHEMICAL DATA

**Physical State:** Clear, colorless liquified gas  
**Odor:** Slight ethereal odor  
**Vapor Pressure:** 82 psig at 77° F (air=1)  
**Vapor Density:** 3.18 at 77° F (air=1)  
**Solubility in Water:** 0.10% by weight at 77° F/1 atm  
**Specific Gravity:** 1.21  
**Evaporation Rate:** >1 (butyl acetate = 1)  
**Percent Volatile:** 100%  
**Boiling Point:** -15.7° F

## FIRE AND EXPLOSION HAZARD DATA

**Flash Point:** None to boiling (TCC)  
**Extinguishing Media:** Use alcohol foam, carbon dioxide or water spray.  
**Fire Fighting Instructions:** Wear self-contained breathing apparatus and full protective gear.

## HEALTH HAZARD DATA

**Emergency Overview:** Exposure to liquid may cause frostbite.  
**Eyes:** Contact with liquid is irritating and may cause frostbite.  
**Skin:** Contact causes frostbite.  
**Ingestion:** Unlikely.  
**Inhalation:** High concentrations of vapors in immediate area can displace oxygen and can cause dizziness, unconsciousness and even death with longer exposure.

## EMERGENCY AND FIRST AID

**Eyes:** Treat for possible frostbite, then flush with plenty water. Have eyes examined and tested by medical personnel if irritation develops.  
**Skin:** Treat for possible frostbite, then wash with soap and water. Get medical attention if irritation develops.  
**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

## REACTIVITY DATA

**Stability:** Stable.  
**Conditions to Avoid:** Do not spray near sources of ignition.  
**Incompatibility:** Do not mix with powdered alkali and alkaline earth metals or strong oxidizing agents.  
**Hazardous Polymerization:** Will not occur.

***SPILL, DISPOSAL AND STORAGE INFORMATION***

**Spill:** Absorb spill with inert material then place in a chemical waste container for disposal.

**Disposal:** Dispose of in accordance with all federal, state and local regulations.

**Storage:** Store in a cool, dry place away from heat, sparks and flame. Keep container closed when not in use. Do not store in direct sunlight.

***PROTECTIVE EQUIPMENT AND CONTROL MEASURES***

**Ventilation:** General ventilation should be sufficient.

**Eyes:** Wear safety glasses with side shields and a full face shield.

**Gloves:** Rubber or other chemically resistant gloves.

***SECTION 313 SUPPLIER NOTIFICATION***

Not applicable.

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