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SECTION V - REACTIVITY DATA

Unstable [X] Conditions to Avoid: Oxidizing conditions; heat and  
Stable [ ] ignition sources; less than 5% limonene in liquid tri-  
fluoroethylene. The inhibiting effect of even 5%  
limonene may be overcome if enough radical sources are  
introduced accidentally. R-1123 vapor should be  
saturated with limonene vapor to inhibit polymerization.

Incompatibility (Materials to Avoid): Oxidizers and compounds generating  
free radicals. Corroded steel may serve as polymerization initiator.

Hazardous Polymerization [X] May Occur [ ] Will Not Occur - See  
Section IV - FIRE AND EXPLOSION HAZARD DATA

Conditions To Avoid: See also Section IV.

Trifluoroethylene can decompose with explosive force if an energy source, such  
as a spark, is present. Vapor storage should be in a vessel which can contain  
or safely relieve the pressure increase associated with disproportionation.  
Pressure increase is dependent on many factors, some of which are vessel size  
and shape, method and intensity of the energy source, etc. The pressure rise  
may be 20 or more times the original pressure. The pressure rise from liquefied  
trifluoroethylene cannot be predicted. Therefore, Halocarbon recommends against  
the storage of liquid trifluoroethylene. Handling and use of trifluoroethylene  
may require liquefaction but the temperature should be kept below -30C at all  
times and the quantity kept to the minimum required for processing. Pressures  
above 50 psig should be avoided.

Studies with trifluoroethylene vapor indicate that there is a reduced risk of  
disproportionation at pressures below 50 psig. There is a very high risk of  
disproportionation as pressure increases above 50 psig.

All equipment should be free of air and other radical forming agents before  
introducing trifluoroethylene because those agents enhance polymerization.  
Trifluoroethylene is highly reactive and may react vigorously with other  
chemicals, liberating much heat.

Vaporization of liquid trifluoroethylene should be avoided. The vapor may not  
contain enough polymerization inhibitor (limonene) because the inhibitor is less  
volatile than trifluoroethylene.



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SECTION VI - HEALTH HAZARD DATA

Ten rats receiving a single four-hour exposure to 5.4 mg/L as a gas survived the exposure and the 14-day post-exposure observation period. Signs of effects were minimal both during and following exposure. A minimal, transient adverse effect on body weight was noted and gross postmortem observations were considered unremarkable.

Limonene may cause irritation of skin, eyes, throat and lungs.

At high concentration trifluoroethylene can act as an asphyxiant by displacement of air. Liquid can cause frost-bite on skin.

Primary routes of entry:  Inhalation  Skin  Eyes  Oral

Acute Effects of Overexposure: May include anesthesia and diminished mental alertness.

Chronic Effects of overexposure: Unknown

Carcinogenicity listing:  NTP  IARC  OSHA  
 Other:

First Aid

- Inhalation: Remove to fresh air and apply artificial respiration if necessary. Contact physician.
- Skin: Flush with tepid water to reduce freezing of tissue. Seek medical attention for frost burn
- Eye: Flush eyes with water. Seek medical help.
- Oral: N/A

Medical Conditions Generally Aggravated by Exposure: None known

Other Health Hazards: None known



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SECTION VII - PROTECTION INFORMATION

Respiratory: Self-contained breathing apparatus for emergency use.

Ventilation: Adequate explosion-proof general and local exhaust.

Eye and Face: Safety glasses or goggles.

Gloves: Impervious gloves.

Other equipment: Steel-toed safety shoes are recommended for those handling cylinders.

Storage: Halocarbon recommends against the storage of liquid trifluoroethylene. Vapor storage should always be below a pressure of 50 psig or in a vessel which can safely contain or relieve the large pressure increase associated with disproportionation - see Section V. Trifluoroethylene should be stored with limonene as a polymerization inhibitor.

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SECTION VIII - SPILL, LEAK AND DISPOSAL PROCEDURES

Spill, Leak, or Release: Evacuate area, provide explosion-proof ventilation and allow spill to evaporate. Use self-contained respirators if attempting to shut off leak.

Waste Disposal: Observe all federal, state and local regulations.

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SECTION IX - OTHER INFORMATION

1. Hazardous Materials/Dangerous Goods Shipping Regulations

U.S. (49 CFR): Proper Shipping Name: Compressed Gases, Flammable, N.O.S.  
(Trifluoroethylene Stabilized)  
Hazard Class: 2.1; ID No.: UN 1954; Packaging Group: N/A

IATA: Proper Shipping Name: Compressed Gases, Flammable, N.O.S.  
(Trifluoroethylene Stabilized)  
Hazard Class: 2.1; ID No.: UN 1954; Packaging Group: N/A

IMDG: Proper Shipping Name: Compressed Gases, Flammable, N.O.S.  
(Trifluoroethylene Stabilized)  
Hazard Class: 2.1; ID No.: UN 1954; Packaging Group: N/A

2. Other Information: HMIS Labeling: H 2; F 4; R 3; P B