



MATERIAL SAFETY DATA SHEET

IDENTITY: ETFAA (ETHYL 4,4,4-TRIFLUOROACETOACETATE)

SECTION I: MANUFACTURER

HALOCARBON PRODUCTS CORPORATION      Emergency Number:                    (803) 278-3504  
P.O. Box 661                                    Customer Service & Sales: (201) 262-8899  
River Edge, N.J.    07661  
  
Prepared by:    MSDS Coordinator

SECTION II: HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components	CAS No.	OSHA PEL	ACGIH TLV	Other Limits
Ethyl 4,4,4-trifluoroacetoacetate	372-31-6	None	None	None

OSHA HAZARD RATING:  
This product contains the following toxic chemical(s) subject to Section 313 title III reporting requirements (40 CFR Part 372).

None

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point        : 130-132C                                    Vapor Pressure:6mm Hg @ 20C  
Melting Point        : -39C    Vapor Density(Air=1): Not available  
Specific Gravity(H2O=1): 1.26                                   Solubility in Water : Slightly soluble

Appearance and Odor: Clear liquid with sweet odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point/Method: 100F/closed cup                    Autoignition Temp: Not determined  
Flammability Limits in Air    -    LEL: N/A    UEL: N/A

Extinguishing Media: Carbon dioxide, dry chemical powder, or appropriate foam. Water may be effective for cooling but may not effect extinguishment.

Special Fire Fighting Procedures: Material is highly flammable. Evacuate personnel to safe area. Avoid breathing decomposition products. Wear self-contained breathing apparatus and protective clothing to prevent contact with skin or eyes. Vapor may travel considerable distance to source of ignition and flash back.

Unusual Fire and Explosion Hazards: Toxic decomposition products in fire include hydrogen fluoride. Container explosion may occur under fire conditions. In case of large fire, evacuate and fight fire from an explosion resistant area. Forms explosive mixture with air.

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SECTION V - REACTIVITY DATA

Unstable [ ] Conditions to Avoid: See incompatibles.  
Stable [X]

Incompatibility (Materials to Avoid): Strong acids, strong bases, oxidizing agents, strong reducing agents.

Hazardous Combustion or Decomposition Products: Toxic fumes of carbon dioxide, carbon monoxide, hydrogen fluoride.

Hazardous Polymerization [ ] May Occur [X] Will Not Occur  
Conditions To Avoid: N/A

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SECTION VI - HEALTH HAZARD DATA

May be irritating to mucous membranes, upper respiratory tract. Material may be harmful if inhaled. Harmful if swallowed. May cause skin irritation. May cause eye irritation. To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.

Toxicity Date:

Oral-Rat LD50: 855 mg/kg

Skin Absorption-Rabbit, 4H: Mild irritation effect.

Primary routes of entry: [X] Inhalation [X] Skin [ ] Eyes [ ] Oral

Chronic effects of overexposure: Unknown

Carcinogenicity listing: [No] NTP [No] IARC [No] OSHA  
[No] Other:

First Aid

Inhalation: Remove to fresh air and give artificial respiration if necessary. If breathing is difficult, give oxygen. Call a physician.

Skin: Wash affected area immediately for at least 15 minutes while removing contaminated clothing and shoes. Seek medical help if needed.

Eye: Flush eyes with plenty of water for at least 15 minutes. Get immediate medical help.

Oral: If swallowed, wash out mouth with water provided person is conscious. Get medical attention.

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SECTION VII - PROTECTION INFORMATION

Respiratory: Use self-contained breathing apparatus for emergency use.  
Avoid prolong or repeated exposure.

Ventilation: Use only with adequate ventilation.

Eye protection: Safety glasses or goggles.

Gloves: Wear appropriate chemical resistant gloves.

Other equipment: Safety shower and eye wash. Use non-sparking tools.  
Mechanical exhaust required. Store in a cool, dry place.  
Keep container tightly closed.

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SECTION VIII - SPILL, LEAK AND DISPOSAL PROCEDURES

Spill, Leak, or Release: Evacuate area. Shut off all sources of ignition.  
Wear self-contained breathing apparatus and protective clothing and cover  
material with dry lime, sand or soda ash and place in closed containers  
using non-sparking tools and transport outdoors. Ventilate area and wash  
spill site after pickup of spilled material is complete. Contain any  
runoff; harmful to aquatic organisms.

Waste Disposal: Contact a licensed waste disposal service to dispose of this  
material. This material is flammable and may be incinerated. Observe all  
federal, state and local government regulations.

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SECTION IX - OTHER INFORMATION

DOT Information - Proper Shipping Name: Esters, N.O.S.  
Hazard Class: 3; ID No.: UN 3272  
Packaging Group: III Hazard Label: Flammable liquid

IATA - Proper Shipping Name: Esters, N.O.S.  
Hazard Class: 3; ID No.: UN 3272  
Packaging Group: III

Other Information: HMIS Labeling: H 1; F 3; R 0  
NFPA Labeling: H 1; F 3; R 0

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March 16, 2005