

# MATERIAL SAFETY DATA SHEET

For R&D use only. Not for drug, household or other uses.

Click <http://www.lookchem.com/cas-420/420-46-2.html> for suppliers of this product.

### Composition/Information on Ingredient

420-46-2

**Code:**  
T

**RTECS:**  
KJ4110000

**Code:**  
T

**Name:**  
ETHANE, 1,1,1-TRIFLUORO- Environmental Wt: 2 O

**Other REC Limits:**  
NONE RECOMMENDED

**OSHA PEL:**  
NOT ESTABLISHED

**Code:**  
M

**OSHA STEL:**

**Code:**

**ACGIH TLV:**  
NOT ESTABLISHED

**Code:**  
M

**ACGIH STEL:**  
N/P

**Code:**

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## Control Measures

UNDER NORMAL MANUFACTURE  
PRODUCT, SELF-CONTAINED

**Ventilation:**  
LOCAL EXHAUST IF LARGE AMOUNTS ARE RELEASED. MECHANICAL VENTILATION SHOULD BE USED IN LOW/ENCLOSED PLACES.

**Protective Gloves:**  
IMPERVIOUS GLOVES SHOULD BE USED TO AVOID PROLONGED EXPOSURE.

**Eye Protection:**  
CHEMICAL SPLASH GOGGLES SHOULD BE AVAILABLE FOR USE.

**Other Protective Equipment:**  
Equipment 5 AVOID BREATHING VAPORS. AVOID CONTACT WITH SKIN AND EYES. USE WITH SUFFICIENT VENTILATION TO KEEP EMPLOYEE EXPOSURE BELOW RECOMMENDED EXPOSURE LIMITS.

**Work Hygienic Practices:**

WASH THOROUGHLY AFTER HANDLING. WASH CONTAMINATED CLOTHING BEFORE REUSE.

**Supplemental Safety and Health:**  
NOTE TO PHYSICIAN: THIS MATERIAL MAY MAKE THE HEART MORE SUSCEPTIBLE TO ARRHYTHMIAS. CATECHOLAMINES SUCH AS ADRENALINE, AND OTHER COMPOUNDS HAVING SIMILAR EFFECTS, SHOULD BE RESERVED FOR EMERGENCIES AND THEN USED ONLY WITH CAUTION.

**LD50LC50Mixture:**  
ORAL LD50(RAT): THE BLEND IS UNTE

**Route Of Entry Inds - Inhalation:**  
N/P

**Skin:**  
N/P

**Ingestion:**  
N/P

**Carcinogenicity Inds - NTP:**  
NO

**IARC:**  
NO

**OSHA:**  
NO

**Health Hazards Acute And Chronic:**  
INHALATION OF HIGH CONCENTRATIONS OF VAPOR IS HARMFUL AND MAY CAUSE HEART IRREGULARITIES, UNCONSCIOUSNESS, OR

DEATH. INTENTIONAL MISUSE OR DELIBERATE INHALATION MAY CAUSE DEATH WITHOUT WARNING. VAPOR REDUCES OXYGEN AVAILABLE FOR BREATHING AND IS HEAVIER THAN AIR. LIQUID CONTACT CAN CAUSE FROSTBITE.

3 NONE OF THE COMPONENTS PRESENT IN THIS MATERIAL AT CONCENTRATIONS EQUAL TO OR GREATER THAN 0.1% ARE LISTED BY IARC, NTP, OSHA, OR ACGIH AS A CARCINOGEN.

**Signs And Symptoms Of Overexposure:** OVEREXPOSURE TO THE VAPORS BY INHALATION MAY INCLUDE TEMPORARY NERVOUS SYSTEM DEPRESSION WITH ANESTHETIC EFFECTS SUCH AS DIZZINESS, HEADACHE, CONFUSION, INCOORDINATION AND LOSS OF CONSCIOUSNESS. HIGHE R EXPOSURES TO THE

INADEQUATE CIRCULATION; OR FATALITY FROM GROSS OVEREXPOSURE. CONTACT WITH LIQUID CAN CAUSE FROSTBITE.

INDIVIDUALS WITH PREEXISTING DISEASE OF THE CENTRAL NERVOUS OR CARDIOVASCULAR SYSTEM MAY HAVE INCREASED SUSCEPTIBILITY TO THE TOXICITY OF INCREASED EXPOSURES.

INHALATION: REMOVE TO FRESH AIR. KEEP PERSON CALM, IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN. SKIN: FLUSH WITH LUKE WARM WATER. DO NOT USE HOT WATER. IF FROSTBITE HAS OCCURRED, CALL A PHYSICIAN. EYES: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR 15 MINUTES. CALL A PHYSICIAN.

INGESTION: NOT A PROBABLE ROUTE; HOWEVER, IN CASE OF ACCIDENTAL INGESTION, CALL A PHYSICIAN.

**Spill Release Procedures:**

REMOVE OPEN FLAMES. USE SELF-CONTAINED BREATHING APPARATUS FOR LARGE SPILLS OR RELEASES. NOTE: REVIEW FIRE FIGHTING MEASURES & HANDLING SECTIONS BEFORE PROCEEDING WITH CLEAN-UP. USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT DURING CLEAN-UP.

**Neutralizing Agent:**  
N/P

**Waste Disposal Methods:**  
COMPLY WITH FEDERAL, STATE AND LOCAL REGULATIONS. RECLAIM BY DISTILLATION OR REMOVE TO A PERMITTED WASTE DISPOSAL FACILITY.

**Handling And Storage Precautions:**  
CLEAN, DRY AREA. DO NOT HEAT ABOVE 52C (126F).

**Other Precautions:**  
AVOID BREATHING VAPORS. AVOID LIQUID CONTACT WITH EYES OR SKIN. USE WITH SUFFICIENT VENTILATION TO KEEP EMPLOYEE EXPOSURE BELOW THE RECOMMENDED LIMIT. CONTACT WITH CHLORINE OR OTHER STRONG OXIDIZING AGENTS SHOULD ALSO BE

## Fire and Explosion Hazard Information

**Flash Point Method:**  
N/P

**Flash Point:**

**Flash Point Text:**  
WILL NOT BURN

**Autoignition Temp:**

**Autoignition Temp Text:**  
N/D

**Lower Limits:**  
N/D

**Upper Limits:**  
N/D

**Extinguishing Media:**  
AS APPROPRIATE FOR COMBUSTIBLES IN AREA.

**Fire Fighting Procedures:**  
COOL TANKS/CONTAINERS WITH WATER SPRAY OR FOG. SELF-CONTAINED BREATHING APPARATUS IS REQUIRED IF CYLINDERS RUPTURE AND CONTENTS ARE RELEASED UNDER FIRE CONDITIONS.

**Unusual Fire/Explosion Hazard:**  
CYLINDERS MAY RUPTURE UNDER FIRE CONDITIONS. DECOMPOSITION MAY OCCUR.

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$\frac{D}{D_0} = \frac{1}{2} \left( \frac{D}{D_0} + \frac{D}{D_0} \right) = \frac{1}{2} \left( \frac{D}{D_0} + \frac{D}{D_0} \right)$

HCC:  
G3

**NRC/State LIC No:**  
N/K

**Net Prop WT For Ammo:**

**Boiling Point:**  
=-46.7C, -52.0F

**B.P. Text:**

**Melt/Freeze Pt:**

**M.P/F.P Text:**  
N/K

**Decomp Temp:**

**Decomp Text:**  
N/K

**Vapor Pres:**  
182.1 PSIA

**Vapor Density:**  
N/K

**Volatile Org Content %:**

**Spec Gravity:**  
N/K

**VOC Pounds/Gallon:**

**PH:** N/K

**VOC Grams/Liter:**

**Viscosity:**  
N/K

**Evaporation Rate & Reference:**  
(CARBONTETRACHLORIDE=1)>1

**Solubility in Water:**  
0.1 WT%

**Appearance and Odor:**  
CLEAR,COLORLESS LIQUIDIFIED GAS W/SLIGHT ETNEREAL ODOR

**Percent Volatiles by Volume:**  
100/WT

**Corrosion Rate:**  
N/K

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## Reactivity Data

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**Stability Indicator:**

### Stability Condition To Avoid

**Materials To Avoid:**  
INCOMPATIBLE WITH ACTIVE METALS, ALKALI OR ALKALINE EARTH METALS-POWDERED ALUMINUM, ZINC, BERYLLIUM.

**Hazardous Decomposition Products:**  
DECOMPOSITION PRODUCTS ARE HAZARDOUS. THIS MATERIAL CAN BE DECOMPOSED BY HIGH TEMPERATURES (OPEN FLAMES, GLOWING METAL SURFACES.) FORMING HYDROCHLORIC, HYDROFLUORIC ACIDS, POSSIBLE CARBONYL HALIDES.

**Hazardous Polymerization Indicator:**  
NO

**Conditions To Avoid Polymerization:**  
NONE

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## Toxicological Information

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## MSDS Transport Informa

**Information:**N/P

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Regulatory Information

**State Regulatory Information:** N/D

## Other Information

**Other Information:**N/P

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any

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