

DU PONT E I NEMOURS & CO CHEMICALS & PIGMENTS DEPT -- SUVA 134A -- 6830-01-370-6208
===== Product Identification =====

Product ID:SUVA 134A
MSDS Date:03/23/1999
FSC:6830
NIIN:01-370-6208
Status Code:A
MSDS Number: CKSCJ
=== Responsible Party ===
Company Name:DU PONT E I NEMOURS & CO CHEMICALS & PIGMENTS DEPT
Address:1007 MARKET ST
City:WILMINGTON
State:DE
ZIP:19898
Country:US
Info Phone Num:800
-441-7515
Emergency Phone Num:(800)424-9300
Resp. Party Other MSDS Num.:DU000693
Preparer's Name:MSDS COORDINATOR
Chemtrec Ind/Phone:(800)424-9300
CAGE:23037

=== Contractor Identification ===
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Box:City:WILMINGTON
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===== Composition/Information on Ingredients =====

Ingred Name:ETHANE, 1,1,1,2-TETRAFLUORO-
CAS:811-97-2
= Wt:100.
Other

REC Limits:1000 PPM, 8 & 12 HR
OSHA PEL:NONE ESTABLISHED
ACGIH TLV:NONE ESTABLISHED

===== Hazards Identification =====

Reports of Carcinogenicity:NTP:UNKNOWN IARC:NO OSHA:NO

Health Hazards Acute and Chronic:INHALATION: ETHANE,

1,1,1,2-TETRAFLUORO-GROSS OVEREXPOSURE MAY CAUSE: CENTRAL NERVOUS SYSTEM DEPRSSION WITH DIZZINESS, CONFUSION, INCOORDINATION, DROWSINESS OR UNCONSCIOUSNESS. IRREGULAR HEART BEAT WI TH A STRANGE SENSATION IN THE CHEST

, HEART THUMPING, APPREHENSION,

LIGHTHEADEDNESS, FEELING OF FAINTING, DIZZINESS, WEAKNESS, SOMETIMES PROGRESSING TO LOSS OF CONSCIOUSNESS AND DEATH.

SUFFOCATION, IF A IR IS DISPLACED BY VAPORS. SKIN: IMMEDIATE EFFECTS OF OVEREXPOSURE MAY INCLUDE: FROSTBITE, IF LIQUID OR ESCAPING VAPOR CONTACTS THE SKIN. EYE: FROSTBITE-LIKE EFFECTS MAY OCCUR IF THE LIQUID OR ESCAPIN G VAPORS CONTACT THE EYES.

Explanation of Carcinogenicity:NONE OF THE COMPONENTS PRESENT IN THIS MATERIAL

AT CONCENTRATIONS EQUAL TO OR GREATER THAN 0.1% ARE LISTED BY IARC, NPT, OSHA OR ACGIH AS A CARCINOGEN.

Effects of Overexposure:INHALATION: ETHANE, 1,1,1,2-TETRAFLUORO-GROSS OVEREXPOSURE MAY CAUSE: CENTRAL NERVOUS SYSTEM DEPRSSION WITH DIZZINESS, CONFUSION, INCOORDINATION, DROWSINESS OR UNCONSCIOUSNESS. IRREGULAR HEART BEAT WI TH A STRANGE SENSATION IN THE CHEST, HEART THUMPING, APPREHENSION, LIGHTHEADEDNESS, FEELING OF FAINTING, DIZZINESS, WEAKNESS, SOMETIMES PROGRESSIN

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Medical Cond Aggravated by Exposure:INCREASED SUSCEPTIBILITY TO EFFECTS OF MATERIAL MAY BE OBSERVED IN PERSONS WITH PRE-EXISTING DISEASE OF CENTRAL NERVOUS SYSTEM & CARDIOVASCULAR SYSTEM.

===== First Aid Measures =====

First Aid:INHALATION: IF HIGH CONCENTARATIONS INHALED, IMMEDIATELY REMOVE TO FRESH AIR. KEEP PERSON CLAM. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING DIFFICULT, GIVE OXYGEN. CALL PHYSICIAN. SKI N: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY WATER FOR AT LEAST 15 MINUTES, WHILE REMOVING CONTAMINATED CLOTHING & SHOES. CALL PHYSICIAN . WASH CONTAMINATED CLOTHING BEFORE REUSE. TR

EAT FOR FROSTBITE IF NECESSARY BY GENTLY WARMING
AFFECTED AREA. EYE: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH
PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL PHYSICIAN. INGESTION:
INGESTION IS NOT A POTENTIAL ROUTE OF EXPOSURE.

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===== Fire Fighting Measures =====

Flash Point:WILL NOT BURN

Lower Limits:NA

Upper Limits:NA

Extinguishing Media:USE MEDIA APPROPRIATE FOR SURROUNDING MATERIAL.
COOL TANK/CONTAINER WITH WATER SPRAY.

Fire Fighting

Procedures:SELF-CONTAINED BREATHING APPARATUS MAY BE
REQUIRED IF CYLINDERS RUPTURE OR RELEASE UNDER FIRE CONDITIONS.

Unusual Fire/Explosion Hazard:NOT FLAMMABLE UP TO 100C AT ATMOSPHERIC
PRESSURE BUT MIXTURES WITH HIGH CONCENTRATIONS OF AIR AT ELEVATED
PRESSURE CAN BECOME COMBUSTIBLE AT AMBIENT TEMP. AS TEMPERATURE OF
MATERIAL IS INCREASED LOWER PRESSURE (>ATMOSPHERIC) CAN CREATE
SAME EFFECT. DO NOT MIX WITH HIGH CONCENTRATIONS OF AIR ABOVE
ATMOSPHERIC PRESSURE.

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===== Accidental Release Measures =====

Spill Release Procedures:VENTILATE AREA, ESPECIALLY LOW OR ENCLOSED
PLACES WHERE HEAVY VAPORS MIGHT COLLECT. REMOVE OPEN FLAMES. USE
SELF-CONTAINED BREATHING APPARATUS (SCBA) IF LARGE SPILL OR LEAK
OCCURS.

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===== Handling and Storage =====

Handling and Storage Precautions:USE WITH SUFFICIENT VENTILATION TO
KEEP EMPLOYEE EXPOSURE BELOW RECOMMENDED LIMITS. HFC-134A SHOULD
NOT BE MI

XED WITH AIR FOR LEAK TESTING OR USED FOR ANY OTHER
PURPOSE ABOVE ATMOSPHERIC PRESSURE. SEE FLAMMABLE PROPERTIES
SECTION. STORE IN A CLEAN, DRY PLACE. DO NOT HEAT ABOVE 52C (126
F).

Other Precautions:AVOID CONTACT WITH CHLORINE OR OTHER STRONG OXIDIZING
AGENTS SHOULD BE AVOIDED.

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===== Exposure Controls/Personal Protection =====

Respiratory Protection:UNDER NORMAL MANUFACTURING CONDITIONS, NO
RESPIRATORY PROTECTION IS REQUIRED WHEN USING THIS PRODUCT.

SELF-CONTAINED BREATHING APPATATUS (SCBA) IS REQUIRED IF A LARGE RELEASE OCCURS.

Ventilation:NORMAL VENTILATION FOR STANDARD MANUFACTURING PROCEDURES IS GENERALLY ADEQUATE. LOCAL EXHAUST SHOULD BE USED WHEN LARGE AMOUNTS ARE RELEASED.

Protective Gloves:IMPERVIOUS

Eye Protection:CHEMICAL SPLASH GOGGLES.

Other Protective Equipment:NOT PROVIDED

Work Hygienic Practices:NOT PROVIDED

Supplemental Safety and Health

===== Physical/Chemical Properties =====

HCC:G

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Boiling Pt:=-26.5C, -15.7F

Vapor Pres:96 PSIA @ 25C

Vapor Density:3.6

Spec Gravity:1.208 @ 77F

Evaporation Rate & Reference:>1 (CCL4=1)

Solubility in Water:0.15 WT% @ 25C

Appearance and Odor:COLORLESS, LIQUIFIED GAS, SLIGHT ETHER ODOR.

Percent Volatiles by Volume:100

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

INCOMPATIBLE WITH ALKALI OR ALKALINE EARTH METALS-POWDERED AL. ZN, BE, ETC.

Stability Condition to Avoid:AVOI

D OPEN FLAMES AND HIGH TEMPERATURES.

Hazardous Decomposition Products:DECOMPOSITION PRODUCTS ARE HAZARDOUS.

THIS MATERIAL CAN BE DECOMPOSED BY HITH TEMPERATURES (OPEN FLAMES, GLOWING METAL SURFACES, ETC.) FORMING HYDROFLUORIC ACID AND POSSIBLY CARBONYL FLUORIDE.

Conditions to Avoid Polymerization:WILL NOT OCCUR.

===== Toxicological Information =====

Toxicological Information:SHORT DURATION OF VAPOR SPRAY PRODUCED VERY SLIGHT EYE IRRITATION. ANIMAL TE

STING INDICATES MATERIAL IS SLIGHT

SKIN IRRITANT BUT NOT SKIN SENSITIZER. INHALATION: 4 HR, ALC, RAT: 567000 PPM. SINGLE EXPOSURE CAUSED CARDIAC SENSITIZATION, A POTENTIALLY FATAL DISTURBANCE OF HEART RHYTHM ASSOCIATED WITH HEIGHTENED SENSITIVITY TO ACTION OF EPINEPHRINE. LOWEST OBSERVED ADVERSE EFFECT LEVEL FOR CARDIAC SENSITIZATION: 75000 PPM. SINGLE EXPOSURE CAUSED LETHARGY, NARCOSIS, INCREASED RESPIRATORY RATES (TEMPORARY EFFECTS). SINGLE DOSE TO NEAR LETHAL DOSE: PULMONARY EDEMA. CONTINUED IN OTHER INFORMATION FIELD.

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Ecological Information
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Ecological:AQUATIC TOXICITY: 48 HR EC50 - DAPHNIA MAGNA: 980 MG/L; 96 HR LC50 - RAINBOW TROUT: 450 MG/L.

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Disposal Considerations
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Waste Disposal Methods:CONTAMINATED HFC-134A CAN BE RECOVERED BY DISTILLATION OR REMOVED TO A PERMITTED WASTE DISPOSAL FACILITY. COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

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MSDS Transport Information
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Transport Information:DOT INFORMATION: 1,1,1,2-TETRAFLUOROETHANE, 2.2, UN NO 3159, NONFLAMMABLE GAS LABEL.

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Regulatory Information
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SARA Title III Information:SARA SECTION 311/312 CLASSES: ACUTE, CHRONIC, PRESSURE. NOT ON SARA EHS, CERCLA HAZARDOUS SUBSTANCE, SARA TOXIC CHEMICAL LISTS.

Federal Regulatory Information:INCLUDED IN TSCA INVENTORY.

State Regulatory Information:NOT PROVIDED

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Other Information
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