**General Information**

**Item Name:** REFRIGERANT GAS MIXTURE

**Company's Name:** DU PONT E I DE NEMOURS & CO INC IMAGING SYS DEPT

**Company's Street:** BARLEY MILL PLZ 22-1356

**Company's P. O. Box:** 80022

**Company's City:** WILMINGTON

**Company's State:** DE

**Company's Country:** US

**Company's Zip Code:** 19880-0022

**Company's Emerg Ph #:** 302-992-2012

**Company's Info Ph #:** 302-992-2012

**Distributor/Vendor # 1:** DUPONT

**Distributor/Vendor # 1 Cage:** 25827

**Record No. For Safety Entry:** 002

**Tot Safety Entries This Stk#:** 003

**Status:** SE

**Date MSDS Prepared:** 21JUN95

**Safety Data Review Date:** 16APR96

**Supply Item Manager:** CX

**MSDS Serial Number:** BYTDG

**Hazard Characteristic Code:** G3

**Unit Of Issue:** CY

**Unit Of Issue Container Qty:** 24 POUND

**Type Of Container:** CYLINDER

**Net Unit Weight:** 24 POUNDS

**Ingredients/Identity Information**

**Proprietary:** NO

**Ingredient:** 1,1,1,2-TETRAFLUOROETHANE

**Ingredient Sequence Number:** 01

**Percent:** 4%

**NIOSH (RTECS) Number:** 1008365TE

**CAS Number:** 811-97-2

**OSHA PEL:** NOT ESTABLISHED

**ACGIH TLV:** NOT ESTABLISHED

**Other Recommended Limit:** NONE RECOMMENDED

**Physical/Chemical Characteristics**

**Appearance And Odor:** CLEAR, COLORLESS LIQUID GAS, SLIGHT ETHEREAL ODOR

**Boiling Point:** -53F, -47C

**Melting Point:** NOT GIVEN

**Vapor Pressure (MM Hg/70 F):** 182 PSI A

**Vapor Density (Air=1):** NOT GIVEN

**Specific Gravity:** 1.05

**Decomposition Temperature:** UNKNOWN

**Evaporation Rate And Ref:** > 1 (CL4 = 1)

**Solubility In Water:** NOT GIVEN
Percent Volatiles By Volume: 100
Corrosion Rate (IPY): UNKNOWN

Fire and Explosion Hazard Data

Flash Point: NONFLAMMABLE
Flash Point Method: TOC
Lower Explosive Limit: NOT GIVEN
Upper Explosive Limit: NOT GIVEN
Extinguishing Media: NONFLAMMABLE. USE EXTINGUISHING MEDIA SUITABLE FOR SURROUNDING FIRE.
Special Fire Fighting Proc: FIRE FIGHTERS SHOULD WEAR SELF CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER.
Unusual Fire And Expl Hazards: CYLINDERS MAY RUPTURE UNDER FIRE CONDITIONS. DECOMPOSITION MAY OCCUR.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): AVOID OPEN FLAMES AND HIGH TEMPERATURES.
Materials To Avoid: INCOMPATIBLE WITH ALKALI OR ALKALINE METALS - POWDERED AL, ZN, BE, ETC.
Hazardous Decomp Products: HYDROFLORIC ACID, CARBONYL FLUORIDE.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NONE. WILL NOT OCCUR.

Health Hazard Data

LD50-LC50 Mixture: NOT GIVEN FOR PRODUCT AS A WHOLE
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: NO
Health Haz Acute And Chronic: INHALATION MAY CAUSE CNS DEPRESSION, UNCONSCIOUSNESS, IRREGULAR HEARTBEAT, APPREHENSION, DEATH, SUFFOCATION. SKIN CONTACT MAY CAUSE FROSTBITE IF LIQUID OR ESCAPING VAPOR CONTACTS THE SKIN. FROSTBITE-LIKE EFFECTS MAY OCCUR IF THE LIQUID OR ESCAPING VAPOR CONTACTS THE EYE.
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: THIS COMPOUND CONTAINS NO INGREDIENTS AT CONCENTRATIONS OF 0.1% OR GREATER THAT ARE CARCINOGENS OR SUSPECT CARCINOGENS.
Signs/Symptoms Of Overexp: DIZZINESS, CONFUSION, INCOORDINATION, DROWNING, UNCONSCIOUSNESS, IRREGULAR HEARTBEAT, APPREHENSION, LIGHTHEADEDNESS, FEELING OF FAINTING, DIZZINESS, WEAKNESS, DEATH, FROSTBITE TO CONTACTED TISSUES.
Med Cond Aggravated By Exp: PREEXISTING DISEASES OF THE CENTRAL NERVOUS OR CARDIOVASCULAR SYSTEM MAY HAVE INCREASED SUSCEPTIBILITY TO THE TOXICITY OF INCREASED EXPOSURES.
Emergency/First Aid Proc: EYES: FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION. SKIN: REMOVE CONTAMINATED CLOTHING. WASH WITH SOAP AND WATER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION. INHALATION: REMOVE TO FRESH AIR. RESTORE BREATHING. GET MEDICAL ATTENTION. INGESTION: NOT CONSIDERED A POTENTIAL ROUTE OF EXPOSURE.
Precautions for Safe Handling and Use

Steps If Matl Released/Spill: USE APPROPRIATE PROTECTIVE EQUIPMENT DURING CLEANUP. VENTILATE AREA, ESPECIALLY LOW OR ENCLOSED PLACES WHERE HEAVY VAPORS MIGHT COLLECT. REMOVE OPEN FLAMES. USE SELF-CONTAINED BREATHING APPARATUS FOR LARGE SPILLS OR RELEASES.

Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

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

Precautions-Handling/Storing: USE WITH SUFFICIENT VENTILATION TO KEEP EMPLOYEE EXPOSURE BELOW RECOMMENDED LIMITS. PRODUCT SHOULD NOT BE MIXED WITH AIR FOR LEAK TESTING PURPOSES.

Other Precautions: SHOULD NOT BE USED FOR ANY PURPOSE ABOVE ATMOSPHERIC PRESSURE. CONTACT WITH CHLORINE OR OTHER STRONG OXIDIZING AGENTS SHOULD BE AVOIDED. STORE IN A CLEAN, DRY PLACE. DO NOT HEAT ABOVE 125°F. AVOID BREATHING VAPOR.

Control Measures

Respiratory Protection: UNDER NORMAL MANUFACTURING CONDITIONS, NO RESPIRATORY PROTECTIVE EQUIPMENT IS REQUIRED WHEN USING THIS PRODUCT. SELF-CONTAINED BREATHING APPARATUS IS REQUIRED IF A LARGE RELEASE OCCURS.

Ventilation: LOCAL EXHAUST AND MECHANICAL (GENERAL) VENTILATION AS REQUIRED TO MAINTAIN EXPOSURE LEVELS.

Protective Gloves: IMPERVIOUS

Eye Protection: CHEMICAL SPLASH GOGGLES

Other Protective Equipment: CHEMICAL RESISTANT CLOTHING AS NECESSARY TO PREVENT SKIN CONTACT. AN EMERGENCY EYEWASH AND SHOWER SHOULD BE AVAILABLE.

Work Hygienic Practices: WASH HANDS THOROUGHLY WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES.

Suppl. Safety & Health Data: INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

Transportation Data

Trans Data Review Date: 96107

DOT PSN Code: MPU

DOT Proper Shipping Name: REFRIGERANT GASES, N.O.S.

DOT Class: 2.2

DOT ID Number: UN1078

DOT Label: NONFLAMMABLE GAS

IMPSN Code: NAP

IM Proper Shipping Name: REFRIGERANT GAS, N.O.S.

IM Regulations Page Number: 2176

IM UN Number: 1078

IM UN Class: 2(2.2)

IM Subsidiary Risk Label: -

IATA PSN Code: VQM

IATA UN ID Number: 1078

IATA Proper Shipping Name: REFRIGERANT GAS, N.O.S.

IATA UN Class: 2.2

IATA Label: NONFLAMMABLE GAS

AFI PSN Code: VQM

AFI Proper Shipping Name: REFRIGERANT GASES, N.O.S.

AFI Class: 2.2

AFI UN Number: UN1078

AFI Basic Pac Ref: A6.3, A6.5
N. O. S. Shipping Name: CONTAINS PENTAFLUOROETHANE, 1, 1, 1-TRI FLUOROETHANE, 1, 1, , 1, 2- TETRAFLUOROETHANE

Disposal Data

Label Data

Label Required: YES
Technical Review Date: 16APR96
MFR Label Number: NONE
Label Status: F
Common Name: SUVA HP62
Chronic Hazard: NO
Signal Word: WARNING!
Acute Health Hazard-Moderate: X
Contact Hazard-Moderate: X
Fire Hazard-Slight: X
Reactivity Hazard-Slight: X
Special Hazard Precautions: USE WITH SUFFICIENT VENTILATION TO KEEP EMPLOYEE EXPOSURE BELOW RECOMMENDED LIMITS. PRODUCT SHOULD NOT BE MIXED WITH AIR FOR LEAK TESTING PURPOSES. FIRST AID: EYES: FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION. SKIN: REMOVE CONTAMINATED CLOTHING. WASH WITH SOAP AND WATER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION. RESPIRATORY: REMOVED TO FRESH AIR. RESTORE BREATHING. GET MEDICAL ATTENTION. INGESTION: NOT CONSIDERED A POTENTIAL ROUTE OF EXPOSURE. Protect Eye: Y
Protect Skin: Y
Protect Respiratory: Y
Label Name: DU PONT E I DE NEMOURS & CO I MAGING SYNS DEPT
Label Street: BARLEY MILL PLZ 22-1356
Label P.O. Box: 80022
Label City: WILMINGTON
Label State: DE
Label Zip Code: 19880-0022
Label Country: US
Label Emergency Number: 302-992-2012