

Common Name: BIG HORN 8 OZ.

Manufacturer: FIAMM TECHNOLOGIES

SDS Revision Date: 5/26/2016

SDS Format: GHS-US

Item Number(s): J4120002, J4120001

Manufacturer Model Number(s): 2000821, 6580823

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FIAMM BIG HORN

SAFETY DATA SHEET

ACCORDING TO FEDERAL REGISTER RULES AND REGULATIONS

REVISION DATE: 05/26/2016

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE

AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER:

PRODUCT FORM: SUBSTANCE

TRADE NAME: FIAMM BIG HORN 8 OZ.

CAS NO: 75-37-6

FORMULA: C₂H₂F₄

SYNONYMS:

1,1-DIFLUOROETHANE / 1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152A) / ALGOFRENE TYPE 67 / DIFLUOROETHANE / DYMEL 152 / DYMEL 152A / ETHANE, 1,1-DIFLUORO- / ETHYLENE FLUORIDE (=1,1DIFLUOROETHANE) / ETHYLIDENEDIFLUORIDE / ETHYLIDENE FLUORIDE / FC 152A / FLUOROCARBON 152A / FREON 152 / FREON 152A / GENETRON 100 / GENETRON 152 / GENETRON 152A / HALOCARBON R 152A / HCFC-152A / HCFC-152A / HFC-152A / HYDROFLUOROCARBON 152A / REFRIGERANT 152A

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

USE OF THE SUBSTANCE/MIXTURE: AEROSOL HORN

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

FIAMM TECHNOLOGIES, LLC
1550 LEESON AVE
CADILLAC, MI 49601T
231-779-3516

1.4. EMERGENCY TELEPHONE NUMBER:

EMERGENCY NUMBER: CHEM TEL 24 HOUR 1-800-255-3924

SECTION 2: HAZARDS IDENTIFICATION

GHS CATEGORIES:

CRITERIA	CATEGORY	SIGNAL WORD	PICTOGRAMS
GAS UNDER PRESSURE	LIQUEFIED GAS 3	WARNING	GAS CYLINDER

NOTE:

NON-FLAMMABLE AEROSOL. NOT DEFINED AS FLAMMABLE AEROSOL BECAUSE HEAT OF COMBUSTION IS <20 KJ/G, IGNITION DISTANCE <15 CM, AND IT PASSES ENCLOSED SPACE IGNITION TEST ACCORDING TO 16 CFR 1500.3(C)(6) FOR THE U.S. FEDERAL HAZARD SUBSTANCE ACT OF THE CONSUMER PRODUCT SAFETY COMMISSION REGULATIONS. NOT DEFINED AS A FLAMMABLE AEROSOL UNDER THE CANADIAN CONTROLLED PRODUCT REGULATION SOR/88-66, 40 DIVISION 5 CRITERIA.

LABEL ELEMENTS:

SIGNAL WORD: WARNING

PICTOGRAMS: GAS CYLINDER

HAZARD STATEMENTS:

H280: CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED

PREVENTION:

PRECAUTIONARY STATEMENTS:

P251: DO NOT PIERCE OR BURN, EVEN AFTER USE.

STORAGE:

PRECAUTIONARY STATEMENTS:

P410 + P412:

PROTECT FROM SUNLIGHT. DO NOT EXPOSE TO TEMPERATURES EXCEEDING
50 DEG. C [122 DEG. F].

HAZARDS NOT OTHERWISE CLASSIFIED:

HCS2012 CRITERIA	HAZARD STATEMENTS/PRECAUTIONARY STATEMENT	WORD	SIGNAL	PICTOGRAMS
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SIMPLE ASPHYXIAN	MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.		WARNING	NOT APPLICABLE
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OTHER CRITERIA	HAZARD STATEMENTS/PRECAUTIONARY STATEMENT	WORD	SIGNAL	PICTOGRAMS
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FROSTBITE	SKIN CONTACT WITH LIQUID OR AEROSOL JET MAY LEAD TO FROSTBITE		WARNING	NOT APPLICABLE
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SPECIFIC FLAMMABILITY	LIQUID FORM IS FLAMMABLE. (LIQUID FORM CAN BE EJECTED IF THE AEROSOL CAN IS NOT HELD UPRIGHT DURING USE.)		WARNING	NOT APPLICABLE
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INTENTIONAL OVEREXPOSURE	INTENTIONAL MISUSE AND INHALATION ABUSE MAY CAUSE CARDIAC OR CENTRAL NERVOUS SYSTEMS EFFECTS.		WARNING	NOT APPLICABLE
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MAY FORM EXPLOSIVE GAS MIXTURE WITH AIR.		WARNING	NOT APPLICABLE
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SECTION 3: COMPOSITION/INFORMATION ON

3.1. SUBSTANCE:

NAME: 1,1-DIFLUOROETHANE, LIQUEFIED, UNDER PRESSURE

CAS NO: 75-37-6

EC NO: 200-866-1

NAME	PRODUCT IDENTIFIER	%	CLASSIFICATION (GHS-US)
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1,1-DIFLUOROETHANE, (CAS NO)75-37-6 >99 LIQUEFIED GAS, H280
LIQUEFIED,
UNDER PRESSURE
(MAIN CONSTITUENT)

3.2. MIXTURE: NOT APPLICABLE

SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES:

FIRST-AID MEASURES GENERAL:

CHECK THE VITAL FUNCTIONS.

UNCONSCIOUS: MAINTAIN ADEQUATE AIRWAY AND RESPIRATION.

RESPIRATORY ARREST: ARTIFICIAL RESPIRATION OR OXYGEN.

CARDIAC ARREST: PERFORM RESUSCITATION.

VICTIM CONSCIOUS WITH LABORED BREATHING: HALF-SEATED.

VICTIM IN SHOCK: ON HIS BACK WITH LEGS SLIGHTLY RAISED.

VOMITING:

PREVENT ASPHYXIA/ASPIRATION PNEUMONIA. PREVENT COOLING BY COVERING
THE VICTIM (NO WARMING UP).

KEEP WATCHING THE VICTIM. GIVE PSYCHOLOGICAL AID. KEEP THE VICTIM
CALM, AVOID PHYSICAL STRAIN.

DEPENDING ON THE VICTIM'S CONDITION:

DOCTOR/HOSPITAL. NEVER GIVE ALCOHOL TO DRINK.

FIRST-AID MEASURES AFTER INHALATION: REMOVE THE VICTIM INTO FRESH AIR.

RESPIRATORY PROBLEMS: CONSULT A DOCTOR/MEDICAL SERVICE.

FIRST-AID MEASURES AFTER SKIN CONTACT:

RINSE WITH WATER.

IN CASE OF FROSTBITES:

WASH IMMEDIATELY WITH LOTS OF WATER (15 MINUTES)/SHOWER. REMOVE CLOTHING WHILE WASHING. DO NOT REMOVE CLOTHING IF IT STICKS TO THE SKIN. COVER WOUNDS WITH STERILE BANDAGE. CONSULT A DOCTOR/MEDICAL SERVICE. IF BURNED SURFACE > 10%:
TAKE VICTIM TO HOSPITAL.

FIRST-AID MEASURES AFTER EYE CONTACT:

RINSE WITH WATER. DO NOT APPLY NEUTRALIZING AGENTS. TAKE VICTIM TO AN OPHTHALMOLOGIST IF IRRITATION PERSISTS.

FIRST-AID MEASURES AFTER INGESTION: NOT APPLICABLE.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

SYMPTOMS/INJURIES:

CONTAINS REFRIGERATED GAS; MAY CAUSE CRYOGENIC BURNS OR INJURY. NOT EXPECTED TO PRESENT A SIGNIFICANT HAZARD UNDER ANTICIPATED CONDITIONS OF NORMAL USE.

SYMPTOMS/INJURIES AFTER INHALATION:

EXPOSURE TO HIGH CONCENTRATIONS:

DIZZINESS. SLIGHT IRRITATION. HEADACHE. NAUSEA. VOMITING. COORDINATION DISORDERS. DISTURBANCES OF CONSCIOUSNESS. DISTURBANCES OF HEART RATE.

SYMPTOMS/INJURIES AFTER SKIN CONTACT: FROSTBITES.

SYMPTOMS/INJURIES AFTER EYE CONTACT: NO DATA AVAILABLE.

SYMPTOMS/INJURIES AFTER INGESTION: NOT APPLICABLE.

CHRONIC SYMPTOMS: NO EFFECTS KNOWN.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

NO ADDITIONAL INFORMATION AVAILABLE

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA:

SUITABLE EXTINGUISHING MEDIA: WATER SPRAY. BC POWDER. CARBON DIOXIDE.

UNSUITABLE EXTINGUISHING MEDIA: NO UNSUITABLE EXTINGUISHING MEDIA KNOWN.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

FIRE HAZARD:

DIRECT FIRE HAZARD. FLAMMABLE AEROSOL. GAS/VAPOR FLAMMABLE WITH AIR WITHIN EXPLOSION LIMITS. INDIRECT FIRE HAZARD.

MAY BUILD UP ELECTROSTATIC CHARGES:

RISK OF IGNITION. MAY BE IGNITED BY SPARKS.

GAS/VAPOR SPREADS AT FLOOR LEVEL: IGNITION HAZARD.

EXPLOSION HAZARD:

DIRECT EXPLOSION HAZARD. GAS/VAPOR EXPLOSIVE WITH AIR WITHIN EXPLOSION LIMITS. INDIRECT EXPLOSION HAZARD.

HEAT MAY CAUSE PRESSURE RISE IN TANKS/DRUMS: EXPLOSION RISK.

MAY BE IGNITED BY SPARKS.

REACTIVITY:

ON HEATING/BURNING:

RELEASE OF TOXIC AND CORROSIVE GASES/VAPOR E.G.:

HYDROFLUORIC ACID, CARBONYLFLUORIDE. REACTS VIOLENTLY WITH (STRONG) OXIDIZERS.

5.3. ADVICE FOR FIREFIGHTERS:

FIREFIGHTING INSTRUCTIONS:

IF NO HAZARD FOR/FROM THE SURROUNDINGS: CONTROLLED BURNING.

IF HAZARDOUS SUBSTANCES ARE NEARBY:

CONSIDER EXTINGUISHMENT. EXTINGUISH ONLY IF GAS SUPPLY/LEAK CAN BE SHUT AFTERWARDS. COOL TANKS/DRUMS WITH WATER SPRAY/REMOVE THEM INTO SAFETY.

PHYSICAL EXPLOSION RISK:

EXTINGUISH/COOL FROM BEHIND COVER. DO NOT MOVE THE LOAD IF EXPOSED TO HEAT.

AFTER COOLING:

PERSISTENT RISK OF PHYSICAL EXPLOSION. DILUTE TOXIC GASES WITH WATER SPRAY.

PROTECTION DURING FIREFIGHTING:

HEAT/FIRE EXPOSURE: COMPRESSED AIR/OXYGEN APPARATUS.

OTHER INFORMATION: NFPA AEROSOL LEVEL 1.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

GENERAL MEASURES:

REMOVE IGNITION SOURCES. USE SPECIAL CARE TO AVOID STATIC ELECTRIC CHARGES.

ELIMINATE EVERY POSSIBLE SOURCE OF IGNITION. NO NAKED LIGHTS. NO SMOKING.

6.1.1. FOR NON-EMERGENCY PERSONNEL:

PROTECTIVE EQUIPMENT:

INSULATING GLOVES. PROTECTIVE GOGGLES. PROTECTIVE CLOTHING.

LARGE SPILLS/IN ENCLOSED SPACES:

COMPRESSED AIR APPARATUS. SEE "MATERIAL-HANDLING" TO SELECT PROTECTIVE CLOTHING.

EMERGENCY PROCEDURES:

KEEP UPWIND. MARK THE DANGER AREA. CONSIDER EVACUATION. SEAL OFF LOW-LYING AREAS. CLOSE DOORS AND WINDOWS OF ADJACENT PREMISES. STOP ENGINES AND NO SMOKING. NO NAKED FLAMES OR SPARKS. SPARK- AND EXPLOSIONPROOF APPLIANCES AND LIGHTING EQUIPMENT. AVOID INGRESS OF WATER IN THE CONTAINERS. WASH CONTAMINATED CLOTHES.

6.1.2. FOR EMERGENCY RESPONDERS:

PROTECTIVE EQUIPMENT: EQUIP CLEANUP CREW WITH PROPER PROTECTION.

EMERGENCY PROCEDURES: VENTILATE AREA.

6.2. ENVIRONMENTAL PRECAUTIONS: PREVENT SPREADING IN SEWERS.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

FOR CONTAINMENT:

CONTAIN RELEASED SUBSTANCE, PUMP INTO SUITABLE CONTAINERS. CONSULT "MATERIAL-HANDLING" TO SELECT MATERIAL OF CONTAINERS. PLUG THE LEAK, CUT OFF THE SUPPLY. DAM UP THE LIQUID SPILL. TIP THE CONTAINER ON ONE SIDE TO STOP THE LEAKAGE. TRY TO REDUCE EVAPORATION. MEASURE THE CONCENTRATION OF THE EXPLOSIVE GAS-AIR MIXTURE. DILUTE/DISPERSE COMBUSTIBLE GAS/VAPOR WITH WATER CURTAIN. PROVIDE EQUIPMENT/RECEPTACLES WITH EARTHING. DO NOT SPRAY WATER ON UNHEATED TANK WALLS. DO NOT USE COMPRESSED AIR FOR PUMPING OVER SPILLS.

METHODS FOR CLEANING UP:

DAMAGED/COOLED TANKS MUST BE EMPTIED. DO NOT USE COMPRESSED AIR FOR PUMPING OVER SPILLS. SEE "MATERIAL-HANDLING" FOR SUITABLE CONTAINER MATERIALS. TAKE COLLECTED SPILL TO MANUFACTURER/COMPETENT AUTHORITY. WASH CLOTHING AND EQUIPMENT AFTER HANDLING.

6.4. REFERENCE TO OTHER SECTIONS:

SEE HEADING 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING:

ADDITIONAL HAZARDS WHEN PROCESSED:

PRESSURIZED CONTAINER: DO NOT PIERCE OR BURN, EVEN AFTER USE.

PRECAUTIONS FOR SAFE HANDLING:

COMPLY WITH THE LEGAL REQUIREMENTS. CLEAN CONTAMINATED CLOTHING. HANDLE UNCLEANED EMPTY CONTAINERS AS FULL ONES. THOROUGHLY CLEAN/DRY THE INSTALLATION BEFORE USE. DO NOT USE COMPRESSED AIR FOR PUMPING OVER. USE SPARK-/EXPLOSIONPROOF APPLIANCES AND LIGHTING SYSTEM. TAKE PRECAUTIONS AGAINST ELECTROSTATIC CHARGES. KEEP AWAY FROM NAKED FLAMES/HEAT. KEEP AWAY FROM IGNITION SOURCES/SPARKS. OBSERVE NORMAL HYGIENE STANDARDS. MEASURE THE CONCENTRATION IN THE AIR REGULARLY. MEASURE THE OXYGEN CONCENTRATION IN THE AIR. WORK UNDER LOCAL EXHAUST/VENTILATION.

HYGIENE MEASURES:

DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT. WASH HANDS AND OTHER EXPOSED AREAS WITH MILD SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING AND WHEN LEAVING WORK.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

TECHNICAL MEASURES:

LEVEL 1 AEROSOL.

PROPER GROUNDING PROCEDURES TO AVOID STATIC ELECTRICITY SHOULD BE FOLLOWED.

STORAGE CONDITIONS:

KEEP ONLY IN THE ORIGINAL CONTAINER IN A COOL, WELL VENTILATED PLACE AWAY FROM:

KEEP CONTAINER CLOSED WHEN NOT IN USE. KEEP IN FIREPROOF PLACE. DO NOT EXPOSE TO TEMPERATURES EXCEEDING 50 DEG. C/ 122 DEG. F.

INCOMPATIBLE PRODUCTS: STRONG BASES. STRONG ACIDS.

INCOMPATIBLE MATERIALS: SOURCES OF IGNITION. DIRECT SUNLIGHT. HEAT SOURCES.

STORAGE TEMPERATURE: < 50 DEG. C

HEAT OF COMBUSTION: -7,950 BTU/LB = -4,420 CAL/G = -185X10+5 J/KG

HEAT-IGNITION:

KEEP SUBSTANCE AWAY FROM: HEAT SOURCES. IGNITION SOURCES.

PROHIBITIONS ON MIXED STORAGE:

KEEP SUBSTANCE AWAY FROM: OXIDIZING AGENTS.

STORAGE AREA:

VENTILATION AT FLOOR LEVEL. FIREPROOF STOREROOM. PROVIDE FOR A TUB TO COLLECT SPILLS. PROVIDE THE TANK WITH EARTHING. KEEP OUT OF DIRECT SUNLIGHT. MEET THE LEGAL REQUIREMENTS.

SPECIAL RULES ON PACKAGING:

SPECIAL REQUIREMENTS:

WITH PRESSURE RELIEF VALVE. CLEAN. CORRECTLY LABELLED. MEET THE LEGAL REQUIREMENTS.

PACKAGING MATERIALS:

SUITABLE MATERIAL:

STEEL. STAINLESS STEEL. MONEL STEEL. LEAD. ALUMINIUM. COPPER. TIN.

7.3. SPECIFIC END USE(S): FOLLOW LABEL DIRECTIONS.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS:

8.2. EXPOSURE CONTROLS:

APPROPRIATE ENGINEERING CONTROLS: LOCAL EXHAUST VENTILATION, VENT HOODS.

PERSONAL PROTECTIVE EQUIPMENT:

AVOID ALL UNNECESSARY EXPOSURE. GLOVES. SAFETY GLASSES.

GLOVES

SAFETY GLASSES

MATERIALS FOR PROTECTIVE CLOTHING:

GIVE GOOD RESISTANCE: BUTYL RUBBER. LEATHER. NEOPRENE. POLYETHYLENE. PVC.

HAND PROTECTION: INSULATED GLOVES.

EYE PROTECTION: SAFETY GLASSES.

SKIN AND BODY PROTECTION: PROTECTIVE CLOTHING.

RESPIRATORY PROTECTION:

HIGH VAPOR/GAS CONCENTRATION:

SELF-CONTAINED RESPIRATOR. MAINTAIN OXYGEN LEVELS ABOVE 19.5% IN THE WORKPLACE. USE SUPPLIED AIR RESPIRATORY PROTECTION IF OXYGEN LEVELS ARE BELOW 19.5% OR DURING EMERGENCY RESPONSE TO A RELEASE OF THIS PRODUCT. WEAR APPROPRIATE MASK.

OTHER INFORMATION: DO NOT EAT, DRINK OR SMOKE DURING USE.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL STATE: GAS

APPEARANCE: LIQUEFIED GAS.

MOLECULAR MASS: 66.05 G/MOL

COLOR: COLORLESS.

ODOR: MILD ODOR. SLIGHT ETHER-LIKE ODOR

ODOR THRESHOLD: NO DATA AVAILABLE

PH: NO DATA AVAILABLE

RELATIVE EVAPORATION RATE (BUTYL ACETATE=1): NO DATA AVAILABLE

MELTING POINT: -117 DEG. C

FREEZING POINT: NO DATA AVAILABLE

BOILING POINT: -25 DEG. C

FLASH POINT: <-50 DEG. C

CRITICAL TEMPERATURE: 114 DEG. C

AUTO-IGNITION TEMPERATURE: 455 DEG. C

DECOMPOSITION TEMPERATURE: NO DATA AVAILABLE

FLAMMABILITY (SOLID, GAS): NO DATA AVAILABLE

VAPOR PRESSURE: 5100 HPA

VAPOR PRESSURE AT 50 DEG. C: 11700 HPA

CRITICAL PRESSURE: 44960 HPA

RELATIVE VAPOR DENSITY AT 20 DEG. C: 2.3

RELATIVE DENSITY: 1.0 (-25 DEG. C)

SPECIFIC GRAVITY / DENSITY: 1004 KG/M3 (-25 DEG. C)

SOLUBILITY:

POORLY SOLUBLE IN WATER. SOLUBLE IN ORGANIC SOLVENTS. WATER:
0.54 G/100ML (0 DEG. C)

LOG POW: 0.75 (EXPERIMENTAL VALUE)

LOG KOW: NO DATA AVAILABLE

VISCOSITY, KINEMATIC: NO DATA AVAILABLE

VISCOSITY, DYNAMIC: 0.37 PA.S (-31 DEG. C)

EXPLOSIVE PROPERTIES: NO DATA AVAILABLE

OXIDIZING PROPERTIES: NO DATA AVAILABLE

EXPLOSIVE LIMITS:

4 - 19 VOL %

112 - 518 G/M3

9.2. OTHER INFORMATION:

VOC CONTENT: 0 %

GAS GROUP: LIQUEFIED GAS

OTHER PROPERTIES:

GAS/VAPOR HEAVIER THAN AIR AT 20 DEG. C. MAY GENERATE ELECTROSTATIC CHARGES.

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY:

ON HEATING/BURNING:

RELEASE OF TOXIC AND CORROSIVE GASES/VAPOR E.G.:
HYDROFLUORIC ACID, CARBONYLFLUORIDE. REACTS VIOLENTLY WITH (STRONG)
OXIDIZERS.

10.2. CHEMICAL STABILITY: STABLE UNDER NORMAL CONDITIONS.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS: NOT ESTABLISHED.

10.4. CONDITIONS TO AVOID:
DIRECT SUNLIGHT. EXTREMELY HIGH OR LOW TEMPERATURES. OPEN FLAME.
OVERHEATING. HEAT. SPARKS.

10.5. INCOMPATIBLE MATERIALS: STRONG ACIDS. STRONG BASES.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS:
TOXIC FUME.. CARBON MONOXIDE. CARBON DIOXIDE.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS:

ACUTE TOXICITY: NOT CLASSIFIED

R152A (\F)75-37-6:

LC50 INHALATION RAT (MG/L): 176 MG/L/4H (RAT; LITERATURE STUDY)

LC50 INHALATION RAT (PPM):

> 437500 PPM/4H MORTALITY IN 2/6 AT 43.75% AND 1/6 AT 38.3%.

AT >= 17.52% LETHARGY, LABOURED BREATHING, REDUCED RESPONSIVENESS
TO SOUND WERE OBSERVED. AT 6.64% ONLY HYPERAEMIA AND SHALLOW
BREATHING WERE OBSERVED.

SKIN CORROSION/IRRITATION: NOT CLASSIFIED

SERIOUS EYE DAMAGE/IRRITATION: NOT CLASSIFIED

RESPIRATORY OR SKIN SENSITIZATION: NOT CLASSIFIED

GERM CELL MUTAGENICITY:

NOT CLASSIFIED. BASED ON AVAILABLE DATA, THE CLASSIFICATION CRITERIA

ARE NOT MET

CARCINOGENICITY: NOT CLASSIFIED

REPRODUCTIVE TOXICITY:

NOT CLASSIFIED. BASED ON AVAILABLE DATA, THE CLASSIFICATION CRITERIA ARE NOT MET

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE): NOT CLASSIFIED

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE):

NOT CLASSIFIED. BASED ON AVAILABLE DATA, THE CLASSIFICATION CRITERIA ARE NOT MET

ASPIRATION HAZARD:

NOT CLASSIFIED. BASED ON AVAILABLE DATA, THE CLASSIFICATION CRITERIA ARE NOT MET

POTENTIAL ADVERSE HUMAN HEALTH EFFECTS AND SYMPTOMS:

BASED ON AVAILABLE DATA, THE CLASSIFICATION CRITERIA ARE NOT MET.

SYMPTOMS/INJURIES AFTER INHALATION:

EXPOSURE TO HIGH CONCENTRATIONS:

DIZZINESS. SLIGHT IRRITATION. HEADACHE. NAUSEA. VOMITING. COORDINATION DISORDERS. DISTURBANCES OF CONSCIOUSNESS. DISTURBANCES OF HEART RATE.

SYMPTOMS/INJURIES AFTER SKIN CONTACT: FROSTBITES.

SYMPTOMS/INJURIES AFTER EYE CONTACT: NO DATA AVAILABLE.

SYMPTOMS/INJURIES AFTER INGESTION: NOT APPLICABLE.

CHRONIC SYMPTOMS: NO EFFECTS KNOWN.

SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY:

ECOLOGY - AIR:

NOT CLASSIFIED AS DANGEROUS FOR THE OZONE LAYER (REGULATION (EC) NO 1005/2009). INCLUDED IN THE LIST OF SUBSTANCES WHICH MAY CONTRIBUTE

TO THE GREENHOUSE EFFECT (REGULATION (EC) NO 842/2006). TA-LUFTKLASSE 5.2.5.

ECOLOGY - WATER:

MILD WATER POLLUTANT (SURFACE WATER). NO DATA AVAILABLE ON ECOTOXICITY.

12.2. PERSISTENCE AND DEGRADABILITY:

R152A (75-37-6):

PERSISTENCE AND DEGRADABILITY:

BIODEGRADABILITY IN WATER: NO DATA AVAILABLE.

12.3. BIOACCUMULATIVE POTENTIAL:

R152A (75-37-6):

LOG POW: 0.75 (EXPERIMENTAL VALUE)

BIOACCUMULATIVE POTENTIAL:

LOW POTENTIAL FOR BIOACCUMULATION (LOG KOW < 4).

12.4. MOBILITY IN SOIL: NO ADDITIONAL INFORMATION AVAILABLE

12.5. OTHER ADVERSE EFFECTS:

OTHER INFORMATION: AVOID RELEASE TO THE ENVIRONMENT.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS:

WASTE DISPOSAL RECOMMENDATIONS:

REMOVE WASTE IN ACCORDANCE WITH LOCAL AND/OR NATIONAL REGULATIONS.

HAZARDOUS WASTE SHALL NOT BE MIXED TOGETHER WITH OTHER WASTE.

DIFFERENT TYPES OF HAZARDOUS WASTE SHALL NOT BE MIXED TOGETHER IF THIS MAY ENTAIL A RISK OF POLLUTION OR CREATE PROBLEMS FOR THE FURTHER MANAGEMENT OF THE WASTE. HAZARDOUS WASTE SHALL BE MANAGED RESPONSIBLY. ALL ENTITIES THAT STORE, TRANSPORT OR HANDLE HAZARDOUS WASTE SHALL TAKE THE NECESSARY MEASURES TO PREVENT RISKS OF POLLUTION OR DAMAGE TO PEOPLE OR ANIMALS. REFER TO MANUFACTURER/SUPPLIER FOR INFORMATION ON RECOVERY/ RECYCLING.

ADDITIONAL INFORMATION:

LWCA (THE NETHERLANDS):

KGa CATEGORY 06. HAZARDOUS WASTE ACCORDING TO DIRECTIVE 2008/98/EC.

ECOLOGY - WASTE MATERIALS: AVOID RELEASE TO THE ENVIRONMENT.

SECTION 14: TRANSPORT INFORMATION

IN ACCORDANCE WITH ADR / RID / IMDG / IATA / ADN:

US DOT (GROUND): UN1030, 1,1-DIFLUOROETHANE, 2.1, LEVEL 1 AEROSOL

ICAO/IATA (AIR): UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

IMO/IMDG (WATER): UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

SPECIAL PROVISIONS:

DOT-SP 11516:

IN ACCORDANCE WITH THIS SPECIAL PERMIT, THIS PRODUCT IS NOT SUBJECT TO LABELING REQUIREMENTS UNLESS OFFERED FOR TRANSPORTATION BY AIR. THIS PRODUCT IS NOT SUBJECT TO PLACARDING REQUIREMENTS. OUTSIDE PACKAGING MUST BE MARKED WITH PROPER SHIPPING DESCRIPTION AND 'DOT-SP 11516'

14.2. UN PROPER SHIPPING NAME:

DOT PROPER SHIPPING NAME: 1,1-DIFLUOROETHANE

DOT SPECIAL PROVISIONS (49 CFR 172.102):

DOT-SP 11516:

IN ACCORDANCE WITH THIS SPECIAL PERMIT, THIS PRODUCT IS NOT SUBJECT TO LABELING REQUIREMENTS UNLESS OFFERED FOR TRANSPORTATION BY AIR. THIS PRODUCT IS NOT SUBJECT TO PLACARDING REQUIREMENTS. OUTSIDE PACKAGING MUST BE MARKED WITH PROPER SHIPPING DESCRIPTION AND 'DOT-SP 11516'

DOT PACKAGING EXCEPTIONS (49 CFR 173.XXX): 306

DOT PACKAGING NON BULK (49 CFR 173.XXX): 304

DOT PACKAGING BULK (49 CFR 173.XXX): 314; 315

14.3. ADDITIONAL INFORMATION:

OTHER INFORMATION: NO SUPPLEMENTARY INFORMATION AVAILABLE.

SPECIAL TRANSPORT PRECAUTIONS:

DOT-SP 11516:

IN ACCORDANCE WITH THIS SPECIAL PERMIT, THIS PRODUCT IS NOT SUBJECT TO LABELING REQUIREMENTS UNLESS OFFERED FOR TRANSPORTATION BY AIR. THIS PRODUCT IS NOT SUBJECT TO PLACARDING REQUIREMENTS. OUTSIDE PACKAGING MUST BE MARKED WITH PROPER SHIPPING DESCRIPTION AND 'DOT-SP 11516'.

OVERLAND TRANSPORT:

CLASS (ADR): 2 - GASES

HAZARD IDENTIFICATION NUMBER (KEMLER NO.): 23

CLASSIFICATION CODE (ADR): 2F

ADDITIONAL INFORMATION:

TDG CANADA:

AVW, INC HAS BEEN GRANTED EQUIVELANCY CERTIFICATE SU 9211 (REN. 1) BY THE TCSS, TDGD TO OFFER FOR TRANSPORTBY ROAD, RAIL AND MARINE.

AIR TRANSPORT:

DOT QUANTITY LIMITATIONS PASSENGER AIRCRAFT/RAIL (49 CFR 173.27):
FORBIDDEN

DOT QUANTITY LIMITATIONS CARGO AIRCRAFT ONLY (49 175.75): 150 KG CFR

SECTION 15: REGULATORY INFORMATION

15.1. US FEDERAL REGULATIONS:

R152A (75-37-6):

SARA SECTION 311/312 HAZARD CLASSES:

FIRE HAZARD
SUDDEN RELEASE OF PRESSURE HAZARD
IMMEDIATE (ACUTE) HEALTH HAZARD

15.2. INTERNATIONAL REGULATIONS:

CANADA:

R152A (75-37-6):

WHMIS CLASSIFICATION:
CLASS A - COMPRESSED GAS
CLASS B DIVISION 1 - FLAMMABLE AEROSOL

NEW ZEALAND:

HSNO REGULATION:

HAZARD CLASS: 2.1.2A

UN1030, 1,1-DIFLUOROETHANE, R152A FLAMMABLE, GASES THAT ARE NOT OTHERWISE
HAZARDOUS

EU-REGULATIONS: NO ADDITIONAL INFORMATION AVAILABLE

CLASSIFICATION ACCORDING TO REGULATION (EC) NO. 1272/2008 [CLP]:

FLAM. GAS 1 H220 PRESS.
GAS

FULL TEXT OF H-PHRASES: SEE SECTION 16

CLASSIFICATION ACCORDING TO DIRECTIVE 67/548/EEC [DSD] OR 1999/45/EC [DPD]:
F+; R12

FULL TEXT OF R-PHRASES: SEE SECTION 16

15.2.2. NATIONAL REGULATIONS: NO ADDITIONAL INFORMATION AVAILABLE

15.3. US STATE REGULATIONS:

R152A (75-37-6):

STATE OR LOCAL REGULATIONS:

U.S. - NEW JERSEY - RIGHT TO KNOW HAZARDOUS SUBSTANCE LIST

U.S. - PENNSYLVANIA - RTK (RIGHT TO KNOW) LIST

U.S. - MASSACHUSETTS - RIGHT TO KNOW LIST

SECTION 16: OTHER INFORMATION

DISCLAIMER:

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