

**MATERIAL SAFETY DATA SHEET**

Printed: 11/14/11

**FORANE® 407C****PRODUCT IDENTIFICATION AND USE**

MANUFACTURER: ARKEMA CANADA INC.  
1100 BURLOAK DRIVE  
BURLINGTON, ONT.  
L7L 6B2

EMERGENCY PHONE NUMBER: (800) 567-5726 (ARKEMA)  
(613) 996-6666 (CANUTEC)

PRODUCT IDENTIFIER: FORANE® 407C

PRODUCT CODE: AP04070

PRODUCT USE: REFRIGERANT GAS

WHMIS CLASSIFICATION: A - COMPRESSED GAS  
D2B - TOXIC MATERIAL CAUSING OTHER TOXIC EFFECTS.

**HAZARDOUS INGREDIENTS**

	% WT	CAS #	TLV
1,1,1,2-TETRAFLUOROETHANE (HFC-134A)	30-60	811-97-2	WEEL TWA = 1000 PPM
LD50: NE LC50: >500,000 PPM (4-HR- INHALATION-RATS)			
PENTAFLUOROETHANE (HFC-125)	10-30	354-33-6	WEEL TWA = 1000 PPM
LD50: NE LC50: >800,000 PPM (4-HR- INHALATION-RATS)			
DIFLUOROMETHANE (HFC-32)	10-30	75-10-5	WEEL TWA = 1000 PPM
LD50: NE LC50: >520,000 PPM (4-HR- INHALATION-RATS)			

ADDITIONAL INGREDIENT INFORMATION (WHMIS NOT CONTROLLED):  
NA

**PHYSICAL DATA**

PHYSICAL STATE: LIQUIFIED GAS

ODOUR AND APPEARANCE: COLOURLESS LIQUIFIED GAS WITH FAINT ETHER ODOUR.

ODOUR THRESHOLD: NE

SPECIFIC GRAVITY/DENSITY (G/ML): 1.14 @ 25°C

VAPOUR PRESSURE: (BUBBLE) 151.6 PSIA @ 21.1°C (70° F)

VAPOUR DENSITY (AIR=1): 2.99

VOLATILITY/VOL(%): 100

SOLUBILITY IN H2O: NEGLIGIBLE

EVAPORATION RATE: NE

BOILING POINT: -42.3°C (-44.2°F)

FREEZING POINT: NE

PH: NA

LOG KOW: NE

**SHIPPING INFORMATION**

UN 3340, 2.2, REFRIGERANT GAS R 407C.

**FIRE AND EXPLOSION HAZARD**

FLAMMABILITY: NA

CONDITIONS: NA

NA - NOT APPLICABLE

NE - NOT ESTABLISHED

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MEANS OF EXTINCTION: USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.

FLASHPOINT: NA – GAS

UPPER EXPLOSION LIMIT (% V): NA

LOWER EXPLOSION LIMIT (%V): NA

AUTO-IGNITION TEMPERATURE: NA

HAZARDOUS COMBUSTION PRODUCTS: HYDROGEN FLUORIDE, OXIDES OF CARBON, CARBON HALIDES.

EXPLOSION DATA: NA

SENSITIVITY TO IMPACT: NO

SENSITIVITY TO STATIC DISCHARGE: NO

**REACTIVITY**

CHEMICAL STABILITY: STABLE

INCOMPATIBLE MATERIALS: STRONG ALKALI, ALKALINE EARTH METALS, FINELY POWDERED METALS, ALUMINUM, MAGNESIUM, ZINC, STRONG OXIDIZERS.

CONDITIONS OF REACTIVITY: NE

HAZARDOUS DECOMPOSITION PRODUCTS: MAY DECOMPOSE DURING CONTACT WITH FLAMES, HEATING ELEMENTS, OR IN COMBUSTION ENGINES RELEASING IRRITATING, TOXIC AND CORROSIVE GASES.

**HEALTH HAZARD INFORMATION**

ROUTE OF ENTRY

SKIN CONTACT: CONTACT WITH LIQUID MAY CAUSE FROSTBITE.

SKIN ABSORPTION: NE

EYE: MAY CAUSE IRRITATION

INGESTION: NA

INHALATION: VAPOUR MAY BE IRRITATING TO THE MUCUS MEMBRANES AND RESPIRATORY TRACT.

ACUTE OVER EXPOSURE EFFECTS: NE

CHRONIC OVER EXPOSURE EFFECTS: MAY INCREASE SENSITIVITY OF THE HEART TO ADRENALINE, WHICH COULD RESULT IN IRREGULAR HEARTBEATS AND REDUCED HEART FUNCTION. VAPOUR IS HEAVIER THAN AIR AND CAN CAUSE SUFFOCATION BY REDUCING OXYGEN AVAILABLE FOR BREATHING.

SENSITIZATION: DOES NOT MEET WHMIS CRITERIA.

CARCINOGENICITY: DOES NOT MEET WHMIS CRITERIA.

TERATOGENICITY: DOES NOT MEET WHMIS CRITERIA.

MUTAGENICITY: DOES NOT MEET WHMIS CRITERIA.

REPRODUCTIVE TOXICITY: DOES NOT MEET WHMIS CRITERIA.

**PREVENTIVE MEASURES**

PERSONAL PROTECTIVE EQUIPMENT: WEAR SAFETY GLASSES AND USE IMPERVIOUS GLOVES. WHERE AIRBORNE EXPOSURE IS LIKELY, WEAR A NIOSH APPROVED RESPIRATOR.

SPECIFIC ENGINEERING CONTROLS: LOCAL EXHAUST IS RECOMMENDED.

LEAK AND SPILL PROCEDURES: REMOVE OR EXTINGUISH IGNITION OR COMBUSTION SOURCES. KEEP UPWIND. EVACUATE ENCLOSED SPACES AND DISPERSE GAS WITH FLOOD-LEVEL FORCED-AIR VENTILATION. EXHAUST VAPOURS OUTSIDE.

WASTE DISPOSAL: HAZARDOUS WASTE. DO NOT ALLOW PRODUCT TO

NA - NOT APPLICABLE

NE - NOT ESTABLISHED

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HANDLING PROCEDURES AND EQUIPMENT: ENTER THE ENVIRONMENT. CONSULT FEDERAL OR LOCAL AUTHORITIES FOR APPROVED DISPOSAL METHODS.

STORAGE REQUIREMENTS: WASH BEFORE EATING, DRINKING, USING TOBACCO PRODUCTS OR REST ROOMS. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAMES. KEEP IN A CLOSED, LABELED CONTAINER IN A VENTILATED AREA. DO NOT STORE ABOVE 48 °C (120°F).

**FIRST AID MEASURES**

EYE FLUSH EYES WITH LARGE AMOUNT OF WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. SEEK MEDICAL ATTENTION IF IRRITATION OCCURS OR PERSISTS.

SKIN FLUSH EXPOSED SKIN WITH LUKEWARM WATER (NOT HOT) OR USE OTHER MEANS TO WARM SKIN SLOWLY. SEEK MEDICAL ATTENTION IF FROSTBITTEN OR IRRITATION OCCURS.

INGESTION NA

INHALATION REMOVE PERSON TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, APPLY ARTIFICIAL RESPIRATION AND ADMINISTER OXYGEN IF NECESSARY. SEEK MEDICAL ATTENTION.

**PREPARATION DATE**

PREPARED BY: TECHNICAL DEPARTMENT.  
PHONE NUMBER OF PREPARER: (800) 567-5726  
DATE PREPARED (MM/DD/YY): 07/06/00  
DATE REVISED (MM/DD/YY): 11/14/11

A SIGNIFICANT NEW ACTIVITY NOTICE (SNAC NOTICE) HAS BEEN ISSUED FOR DIFLUOROMETHANE (HFC-32). AND PENTAFLUOROETHANE (HFC-125) IT IS THE RESPONSIBILITY OF THE USERS OF THE SUBSTANCE TO BE AWARE OF AND COMPLY WITH THE SNAC NOTICE AND TO SUBMIT A SNAC NOTIFICATION TO ENVIRONMENT CANADA PRIOR TO THE COMMENCEMENT OF A SIGNIFICANT NEW ACTIVITY ASSOCIATED WITH THE SUBSTANCE.

MINIMUM CONTACT WITH THIS AND ALL CHEMICALS IS RECOMMENDED AS A GOOD GENERAL POLICY TO FOLLOW.

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