

**MATERIAL SAFETY DATA SHEET**

Printed: 2/19/08

FORANE® 134A**PRODUCT IDENTIFICATION AND USE**

MANUFACTURER: ARKEMA CANADA INC.
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PRODUCT IDENTIFIER: FORANE® 134A

PRODUCT CODE: AP9180

PRODUCT USE: REFRIGERANT GAS

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

HAZARDOUS INGREDIENTS

	%W/W	CAS #	TLV
1,1,1,2-TETRAFLUOROETHANE (HFC-134A) LC50: >500,000 PPM (4-HR. – INHALATION-RATS)	100	811-97-2	AIHA WEEL = 1,000 PPM

ADDITIONAL INGREDIENT INFORMATION (WHMIS NOT CONTROLLED):

NA

PHYSICAL DATA

PHYSICAL STATE: GAS

ODOUR AND APPEARANCE: CLEAR, COLOURLESS LIQUIFIED GAS WITH FAINT ETHERAL (ETHER LIKE) ODOUR.

ODOUR THRESHOLD: NE

SPECIFIC GRAVITY/DENSITY (G/ML): 1.21 @ 25°C

VAPOUR PRESSURE: 85.7 PSIA @ 21.1°C (70°F)

VAPOUR DENSITY (AIR=1): 3.54

VOLATILITY/VOL(%): NE

SOLUBILITY IN H2O: (25°C): 0.9 G/L

EVAPORATION RATE: NE

BOILING POINT: -26.4°C / -15.5°F

FREEZING POINT: -101°C (-149.8°F)

PH: NA

LOG KOW: 1.06 (LOG POW)

SHIPPING INFORMATION

UN 3159 2.2, 1,1,1,2-TETRAFLUOROETHANE.

FIRE AND EXPLOSION HAZARD

FLAMMABILITY: NA

CONDITIONS: WILL BURN AT ELEVATED TEMPERATURES

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

FLASHPOINT: NA - GAS

UPPER EXPLOSION LIMIT (% V): NONE

LOWER EXPLOSION LIMIT (%V): NONE

AUTO-IGNITION TEMPERATURE: 743°C

HAZARDOUS COMBUSTION PRODUCTS: HYDROGEN ACID (HF), CARBON MONOXIDE, CARBON

NA - NOT APPLICABLE

NE - NOT ESTABLISHED

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EXPLOSION DATA: DIOXIDE, CARBONYL HALIDE.
MAY DECOMPOSE ON CONTACT WITH FLAMES OR
EXTREMELY HOT SURFACES TO PRODUCE TOXIC AND
CORROSIVE PRODUCTS.

SENSITIVITY TO IMPACT: NO
SENSITIVITY TO STATIC DISCHARGE: NO

REACTIVITY

CHEMICAL STABILITY: STABLE
INCOMPATIBLE MATERIALS: STRONG ALKALIS, ALKALINE OXIDIZERS, POWDERED METALS.
CONDITIONS OF REACTIVITY: NE
HAZARDOUS DECOMPOSITION PRODUCTS: NE

HEALTH HAZARD INFORMATION

ROUTE OF ENTRY

SKIN CONTACT: CONTACT WITH LIQUID MAY CAUSE TISSUES TO FREEZE (FROST BITE). CHEMICAL ITSELF IS NOT IRRITATING.

SKIN ABSORPTION: NE
EYE: VAPOUR IS IRRITATING TO EYES.
INGESTION: NA
INHALATION: EXCESSIVE INHALATION MAY CAUSE HEADACHE, NAUSEA, DIZZINESS AND DROWSINESS.

ACUTE OVER EXPOSURE EFFECTS: MAY INCREASE SENSITIVITY OF THE HEART TO ADRENALINE, WHICH COULD RESULT IN IRREGULAR HEARTBEATS AND REDUCED HEART FUNCTION.

CHRONIC OVER EXPOSURE EFFECTS: NE

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. IF TLV OF THE PRODUCT OR ANY COMPONENTS IS EXCEEDED, A NIOSH APPROVED RESPIRATOR EQUIPPED WITH AN ORGANIC VAPOUR CARTRIDGE IS ADVISED.

SPECIFIC ENGINEERING CONTROLS: LOCAL EXHAUST IS RECOMMENDED.

LEAK AND SPILL PROCEDURES: REMOVE OR EXTINGUISH IGNITION OR COMBUSTION SOURCES. EVACUATE ENCLOSED SPACES UNTIL GAS IS DISPERSED. KEEP UPWIND. STOP LEAK IF POSSIBLE WITH OUT RISK. DISPERSE GAS WITH FLOOR-LEVEL FORCED-AIR VENTILATION. EXHAUST VAPOURS OUTDOORS.

WASTE DISPOSAL: HAZARDOUS WASTE. DO NOT ALLOW PRODUCT TO ENTER THE ENVIRONMENT. CONSULT FEDERAL OR LOCAL AUTHORITIES FOR APPROVED DISPOSAL METHODS.

HANDLING PROCEDURES AND EQUIPMENT: WASH BEFORE EATING, DRINKING, USING TOBACCO PRODUCTS OR REST ROOMS. DO NOT BREATHE

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STORAGE REQUIREMENTS:

VAPOURS. KEEP AWAY FROM HEAT AND FLAMES.
KEEP IN A CLOSED, LABELED CONTAINER IN A
VENTILATED AREA. DO NOT STORE ABOVE 120°F.

FIRST AID MEASURES

EYE	FLUSH EYES WITH LARGE AMOUNT OF WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. SEEK MEDICAL ATTENTION.
SKIN	WASH SKIN WITH WATER AND SOAP. SEEK MEDICAL ATTENTION IF IRRITATION OCCURS OR PERSISTS.
INGESTION	NA
INHALATION	REMOVE PERSON TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, APPLY ARTIFICIAL RESPIRATION AND ADMINISTER OXYGEN IF NECESSARY. SEEK MEDICAL ATTENTION. DO NOT GIVE ADRENALINE, EPINEPHRINE OR SIMILAR DRUGS FOLLOWING EXPOSURE TO THIS PRODUCT.

PREPARATION DATE

PREPARED BY:	PRODUCT SAFETY AND ENVIRONMENT DEPARTMENT.
PHONE NUMBER OF PREPARER:	905-827-9841
DATE PREPARED (MM/DD/YY):	03/13/95
DATE REVISED (MM/DD/YY):	02/19/08

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

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