

SECTION I – CHEMICAL PRODUCT AND COMPANY INFORMATION

Trade Name: COMPRESSED AIR CLEANERS
Chemical Name: 1,1,1,2-Tetrafluoroethane
Part No.: ACT-CK-CAD3; CK-CAD3
FSPID: Front 134a
Product Manufacturer: AUTOKEM INDUSTRY CO., LTD.
Address: Hubei Building, #9003 Binhe Avenue, Futian District, Shenzhen, China
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SECTION II – COMPOSITION/INFORMATION ON INGREDIENTS

Material	CAS #	%
1,1,1,2-Tetrafluoroethane	811-97-2	100%

SECTION III - HAZARDS IDENTIFICATION

Potential Health Effects:

Potential Health Effects – Inhalation of high concentrations of vapor is harmful and may cause irregular heart beat unconsciousness or death. *Intentional misuse or deliberate inhalation may cause death without warning. Vapor reduces oxygen available for breathing and is heavier than air. Liquid contact can cause frostbite.*

Human Health Effects – *Overexposure by inhalation to very high concentrations may cause temporary alterations of the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation. Skin contact may cause frostbite.*

Additional Health Effects – *Increased susceptibility to the effects of this material may be observed in persons with pre-existing disease of the: central nervous system, cardiovascular system.*

Carcinogenicity Information – *None of the components present in this material at concentrations equal to or greater than 0.1% is listed by IARC, NTP, OSHA or ACGIH as a carcinogen.*

SECTION IV - FIRST AID

Inhalation – *If high concentrations are inhaled, immediately remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.*

Skin Contact – *Promptly flush skin with water until all chemical is removed. If there is evidence of frostbite, bathe (do not rub) with lukewarm (not hot) water. If water is not available, cover with a clean, soft cloth or similar covering. Get medical attention if symptoms persist.*

Eye Contact – *Immediately flush eyes with large amounts of water for at least 15 minutes (in case of frostbit water should be lukewarm, not hot) lifting eyelids occasionally to facilitate irrigation. Get medical attention if symptoms persist.*

Ingestion – *Ingestion is not considered a potential route of exposure.*

Notes to Physicians – *Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used with special caution only in situations of emergency life support.*

SECTION V - FIRE FIGHTING MEASURES

Flash Point	Flammable Limits in Air % by Volume		
No Flash Point	LEL	UEL	Autoignition
	None per ASTM E681	None per ASTM E681	>743°C (>1369°F)

SECTION V - FIRE FIGHTING MEASURES Continued.....

Fire and Explosion Hazards: — Aerosol cans may erupt with force at temperatures above 49°C (120°F)

Decomposition may occur.

Note:

HFC-134a is not flammable in air temperatures up to 100°C (212°F) at atmospheric pressure. However, mixtures of HFC-134a with high concentrations of air at elevated pressure and/or temperature can become combustible in the presence of an ignition source. HFC-134a can also become combustible in an oxygen enriched environment (oxygen concentrations greater than that in air). Whether a mixture containing HFC-134a and air, or HFC-134a in an oxygen enriched atmosphere become combustible depends on the inter-relationship of: 1. The temperature 2. The pressure and 3. The proportion of oxygen in the mixture. In general HFC-134a should not be allowed to exist with air above atmospheric pressure or at high temperatures; or in an oxygen enriched environment. Experimental data have also been reported which indicated combustibility of HFC-134a in the presence of certain concentrations of chlorine.

Extinguishing Media

- As appropriate for combustibles in area.

Hazardous Combustion Products -

Smoke, fumes and oxides of carbon.

Special Fire Fighting Procedures -

Cool aerosol cans with water spray. Self-contained breathing apparatus (SCBA) may be required if aerosol cans rupture or release under fire conditions.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel) - NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.

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.

SECTION VII – HANDLING AND STORAGE

Handling (Personnel) - Use with sufficient ventilation to keep employee exposure below recommended limits.

Handling (Physical Aspects) - HFC-134a should not be mixed with air for leak testing or used for any other purpose above atmospheric pressure. See Flammable Properties Section. Contact with chlorine or other strong oxidizing agents should also be avoided.

Storage - Clean, dry area. Do not heat above 49°C (120°F).

SECTION VIII - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point	-26.5°C (-15.7°F) @ 736 mm Hg	Odor	Slight ethereal
Vapor Pressure	96 psia at 25°C (77°F)	Form	Liquefied gas
Vapor Density	3.60 (Air = 1.0) at 25°C (77°F)	Color	Colorless
% Volatiles	100 WT%	Density	1.21 g/cc at 25°C (77°F) - Liquid
Solubility in Water	0.15 WT% @ 25°C (77°F) and 14.7 psia	Specific Gravity	1.208 @ 77°F (25°C)
Evaporation Rate	(CCL4 = 1); greater than 1		

SECTION IX – STABILITY AND REACTIVITY

Chemical Stability - Material is stable. However, avoid open flames and high temperatures.

Incompatibility with Other Materials - Incompatible with alkali or alkaline earth metal.

Decomposition - Decomposition products are hazardous. This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid and carbonyl fluoride.

Polymerization - Polymerization will not occur.

SECTION X – ECOLOGICAL INFORMATION

Aquatic Toxicity: 48 hour EC50 – Daphnia magna: 980 mg/L

96 hour LC50 – Rainbow trout: 450 mg/L

SECTION XI – DISPOSAL CONSIDERATIONS

Contaminated HFC-134a can be recovered by distillation or removed to a permitted waste disposal facility. Comply with Federal, State and Local regulations

SECTION XII - TRANSPORTATION INFORMATION

Proper Shipping Name	Consumer Commodity	DOT/IMO Label
AEROSOLS (maximum 1L)	ORM-D	NONFLAMMABLE GAS

PERSONAL PROTECTIVE EQUIPMENT REQUIRED: NONE

SECTION XIII – DISCLAIMER

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SECTION XIV – PREPARATION INFORMATION

Product manager



Erik de Boevere

The Netherlands / Feb. 14, 2017
Place and Date