

FOUR SEASONS PN 59092

ICI AMERICAS, INC. - EMKAROX (r) PAG 100 2 + 2

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MATERIAL SAFETY DATA SHEET

Revised: 4/16/99

MSDS ID: 37837

ICI AMERICAS INC.

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Section 1 - PRODUCT AND COMPANY IDENTIFICATION

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Product Name: EMKAROX (R) PAG 100 2+2

MANUFACTURER:

ICI AMERICAS, INC.

3411 Silverside Rd.

Wilmington, Delaware 19810

ICI Operator (24hr.): (302) 887-3000

Medical Emergency (24 hr.): (800) 228-5635 Extension 181

Chemical Emergency (24 hr): Involving Transportation

Spills, Leaks, Fires, Accidents: (800) 424-9300

EMKARATE (R) PAG 100 2+2

General Use: Automotive Compressor Lubricant

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Section 2 - HAZARDOUS INGREDIENTS ***

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Ingredients	New Jersey TSR	% w/w)	OSHA PEL
Polyoxoalkylene glycol ether	08306620-5848P	>48.0	Not listed
TriCresylphosphate (Cas# 1330-78-5)		<1.0	Not listed
(<1% ortho isomer)			
1,1,1,2-Tetrafluoroethane (Cas# 811-97-2)		50.0	Not listed

Ingredients not precisely identified are proprietary or nonhazardous.

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Section 3 - HAZARDS IDENTIFICATION

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EMERGENCY OVERVIEW:

Appearance: Colorless liquid (Polyoxoalkylene glycol ether)

Physical Hazards *: Compressed liquified gas (R-134a)

Health Hazards: Skin, eye irritant. Harmful (central nervous system depression, cardiac arrhythmias.

*Hazard Summary as defined by OSHA Hazard Comm. Std., 29 CFR 1910.1200.

Potential Health Effects:

General: This health hazard assessment is based on a consideration of the composition of this product.

Ingestion: Extremely unlikely to occur in use.

Eye contact: Irritant. Liquid splashes or vapor spray may cause freeze burns.

Skin contact: Irritant. The liquid form of this product may cause freeze burns. (frostbite-like lesions).

Skin absorption: This product will probably not be absorbed through human skin.

Inhalation: Exposure to very high vapor concentration can induce anesthetic effects progressing from dizziness, weakness, nausea, to unconsciousness. It can act as an asphyxiant by limiting available oxygen. Very high doses can cause abnormal heart rhythm which is potentially fatal. Persons with preexisting heart disease may increase risk from exposure.

Other effects of overexposure: See Section 11 for additional information.

Read the entire MSDS for a more thorough evaluation of the hazards.

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Section 4 - FIRST AID MEASURES

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Skin Contact: Thaw effected area with water. Remove contaminated clothing. Clothing may adhere to the skin in case of freeze burns. Wash material off of skin with plenty of soap and water. If redness, itching, or a burning sensation develops, get medical attention. Wash contaminated clothing and decontaminate footwear before reuse.

Eye Contact: Irrigate with eyewash solution or clean water, holding eyelids apart, for at least 15 minutes. If redness, itching, or a burning sensation develops, have eyes examined and treated by medical personnel.

Ingestion: DO NOT induce vomiting. Never give anything to an unconscious person. Wash out mouth with water and give 1 or 2 glasses of water to drink. If gastrointestinal symptoms develop, consult medical personnel.

Inhalation: Remove victim to fresh air. Keep warm and at rest. If not breathing, give artificial respiration, preferable mouth-to-mouth. If breathing is labored, give oxygen. In the event of a cardiac arrest, apply external cardiac massage. Do not administer adrenaline or similar sympathomimetic drugs as cardiac arrhythmias may result. Get immediate medical attention.

Section 5 - FIRE FIGHTING MEASURES ***

Flash Point (Deg C): 245 deg. C (open cup)

Autoignition temperature: Not determined.

Flammable Limits (STP): Nonflammable

General Hazards: Compressed liquified gas.

Heavy vapors can suffocate.

R-134a Refrigerant (1,1,1,2-Tetrafluoroethane) is not flammable in air under ambient conditions of temperature and pressure. Under conditions of high temperature and pressure, certain R-134a/air mixtures were shown to be flammable. Mixtures of R-134a and air or oxygen should not be used for pressure or leak testing.

Certain mixtures of R-134a and chlorine may be flammable under some conditions. Thermal decomposition will evolve toxic and irritant vapors.

Extinguishing Media: Not applicable. Use media suitable for surrounding fire. Use water spray to cool container.

Fire Fighting Equipment: Use self-contained breathing apparatus with full facepiece and protective clothing.

Explosive Power: None.

Combustion Products: Hydrogen fluoride, Oxides of phosphorus, carbon monoxide and carbon dioxide.

***NFPA Hazards: Health: 2, Flammability: 1, Reactivity: 1,
Special Hazard: None

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Section 6 - ACCIDENTAL RELEASE MEASURES ***

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Shut off leak if without risk. Wear skin, eye and respiratory protection. Ventilate the spill area. Contain and absorb large spillages onto a inert, non-flammable absorbent carrier (such as earth or sand). Prevent liquid from entering drains, sewers, or waterways, since vapor can create *** suffocating atmosphere. Shovel into a chemical waste container for disposal or recovery. If unable to contain or absorb spilled liquid, then allow spilled liquid to evaporate. Protect against frostbite from evaporating liquid.

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Section 7 - HANDLING AND STORAGE

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Handling: Avoid skin and eye contact. Avoid inhalation of high concentrations of mists or vapors. Do not smoke around this product. Do not cut, grind or weld on or near this product due to the possible toxic fume generation. Do not put mixture of R134a with air or oxygen under pressure; do not use such mixtures for leak or pressure testing.

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Storage Requirements: Keep in a cool, well ventilated place. Keep away from direct sunlight, heat and sources of ignition.

Storage Temperature: Keep at a temperature below 120 deg. F (49 deg, C).

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines: No OSHA PELs or ACTGIH TLVs have been assigned.
WEEL (AIHA): 1,000 ppm 8 hr TWA. Minimize exposure in accordance with good industrial hygiene practice.

Engineering controls: Ventilate low-lying areas such as sumps or pits where vapors collect. Use ventilation adequate to maintain safe levels.
Provide eyewash station and safety shower in work area.

Respiratory protection: Not normally needed, if controls are adequate.
If needed, use MSHA-NIOSH approved respirator for organic vapors. For high concentrations and oxygen-deficient atmospheres, use positive pressure air-supplied respirator.

Protective clothing: Gloves determined to be impervious under conditions of use (neoprene). Depending on conditions of use, additional protection may be required such as apron, arm covers, or full body suit. Wash contaminated clothing before rewearing.

Eye protection: Chemical tight goggles; full faceshield in addition if splashing is possible.

Other protective equipment: Eye-wash station and safety shower in work area.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless liquid (Polyoxoalkylene glycol ether)
Odor: Characteristic
Flash Point (deg C): 245 (open cup) (Polyoxoalkylene glycol ether)
Boiling Point: -15.1 deg. F., -26.2 deg C. (R-134a)
Vapor pressure (mmHg at 20 deg C): 4268 (R-134a)
Vapor density (air 1): 3.3 (R-134a)
Specific gravity (20/20 deg C): 1.27 (R-134a)
Solubility in water: Very low. (R-134a)
% Volatile by volume: 100 (R-134a)

Section 10 - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Incompatibility: Finely divided metals, magnesium and alloys containing more than 2% magnesium. Can react violently if in contact with alkali or alkali earth metals such as sodium, potassium or barium.

Hazardous decomposition products: Hydrogen Fluoride carbon monoxide, carbon dioxide and oxides of phosphorus.

Hazardous polymerization: Will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

No toxicity information is available on this specific preparation. This health hazard assessment is based on information that is available on its components.

Possible Human Health Effects:

General: There is evidence that tricresylphosphate has produced depressed cholinesterase levels in test animals.

Inhalation: High atmospheric concentrations may lead to anesthetic effects, including loss of consciousness. Very high exposures may cause an abnormal heart rhythm and prove suddenly fatal. Higher concentrations may cause asphyxiation due to reduced oxygen content of the atmosphere.

Skin contact: Repeated or prolonged skin contact may result in irritation. Liquid splashes or spray may cause freeze burns. Unlikely to be hazardous by skin absorption.

Eye contact: Irritant. Liquid splashes or spray may cause freeze burns.

Ingestion: Low oral toxicity. But should this occur, freeze burns will result.

Carcinogenicity: The ingredients of this product are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.

Other effects of overexposure: No other adverse clinical effects are known to be associated with exposures to this material. However, because exposure potential is a critical element in the expression of a potential health hazard, this product, if handled in accordance with good industrial hygiene practices, will not present an actual hazard in the workplace.

Section 12 - ECOLOGICAL INFORMATION

Persistence and degradation: Decomposes comparatively rapidly in the lower atmosphere (troposphere). Atmospheric lifetime is 15.6 years. Products of decomposition will be highly dispersed and hence will have a photochemical smog and is not considered to be a VOC. Has not effect on the ozone layer.

Effect on effluent treatment: Discharges of the product will enter the atmosphere and will not result in long term aqueous contamination.

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Section 13 - DISPOSAL CONSIDERATIONS ***
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Disposal method: Discarded product is not a hazardous waste under RCRA, 40 CFR 261. However, R134a containing product should be recycled, reclaimed or destroyed whenever possible.

***Container disposal: Empty container retains product residue. Observe allhazard precautions. Do not distribute, make available, furnish or reuse empty container except for storage and shipment of original product. Remove all product residue from container and puncture or otherwise destroy empty container before disposal. Then dispose of in a facility permitted for nonhazardous waste.

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Section 14 - TRANSPORT INFORMATION
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DOT Hazard Description:
Proper Shipping Name: CONSUMER COMMODITY
Hazard Class: ORM-D
Identification Number: None
Packing Group: None
Hazardous Substance (RQ): N/A
Placard/Label: None

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Section 15 - REGULATORY INFORMATION
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OSHA Classification:
Physical: Compressed liquified gas (R-134a)
Health: Skin, eye irritant. Harmful (central nervous system depression, cardiac arrhythmias)

TSCA (Toxic Substances Control Act) Regulations: All ingredients are on the TSCA Chemical Substance Inventory.

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CERCLA and SARA Regulations (40 CFR 355, 370 and 372): This product does not contain any chemicals subject to the reporting requirements of SARA Section 313.

IARC Classification: None of the components of this product are listed on IARC.

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Section 16 - OTHER INFORMATION ***
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HMIS Ratings:

*** Health Hazard: 2
Flammability Hazard: 1
Reactivity Hazard: 1
Personal Protection: B* (See Section 8 of the MSDS)

The information herein is given in good faith but no warranty, expressed or implied, is made.

*** This line or section contains revisions or new statements since the last issue date.