

MATERIAL SAFETY DATA SHEET

FILE NO.: 1120626

NAME OF PRODUCT

MSDS DATE:2023/06/26

R-134a Air Condition Dye

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: R-134a Air Condition Dye

SYNONYMS: N/A

PRODUCT CODES: N/A

MANUFACTURER: SHIEUN TA INDUSTRY CO., LTD..

ADDRESS: No.34-12,Lane194,Chung Cheng 3rd Rd,Ying Ko Chen,Taipei Hsien,Taiwan.

EMERGENCY PHONE: 886-2-2670-7931(Taiwan)

PRODUCT USE: FOR CAR AIR CONDITION LEAK TRACER

PREPARED BY: BILL CHENG

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

<u>Common Name/ Chemical Name</u>	<u>CAS Number</u>	<u>%W</u>	<u>PEL(mg/m3)</u>	<u>TLV(mg/m3)</u>
1,1,1,2-TETRAFLUOROETHANE (HFC-134a)	811-97-2-100	64.4	NA	NA
FLUORESCENT DYE	Non	7.8	5*	5*
POLYALKYLENE GLYCOL	9038-95-3	27.8	NA	NA

Fluorescent Dye: The specific identity and composition has been withheld as a trade secret, New Jersey Trade Secret Regostry Mumber NJ TSNR 8010312-5002P.

***Airborne Oil Mist Exposure Limits:**

ABGIH TLV: 5 mg/m³, 8 hr ACGIH STEL: 10 mg/m³, 8 hr OSHA PEL: 5 mg/m³, 8hr

SECTION 3 : HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: May cause eye and skin irritation. Do not inhale; can cause respiratory irritation. Do not swallow; can cause digestive tract irritation, nausea, vomiting, diarrhea, asphyxiation.

Primary Routes of Exposure: Eye. Skin. Inhalation(breathing).

Eye Contact: Frostbite-like condition may occur.

Skin Contact: Frostbite-like condition may occur.

Inhalation (breathing): Gross overexposure may cause central nervous system depression with dizziness. Irregular heart beat with a strange sensation in the chest, " heart thumping" , apprehension, lightheadedness, feeling of fainting, dizziness, weakness, loss of consciousness, and asphyxiation.

Ingestion (swallowing): Irritation to the mouth, throat, and stomach.

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

Carcinogenicity:	ACGIHI	IARC	NTP	OSHA
Refrigerant (1,1,1,2-TETRAFLUOROETHANE)	No	No	No	No
Fluorescent Dye	No	No	No	No
Synthetic Lubricant(POLYALKYLENE GLYCOL)	No	No	No	No

HMIS Hazard Rating: Health: 1, Fire: 0, Reactivity: 1

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SECTION 4 : FIRST AID MEASURES

Eye Contact: Flush eyes with plenty of water for 15 minutes. If irritation develops, consult a physician.

Skin Contact : Remove contaminated clothing. Wash affected area with soap and plenty of water. If irritation develops, consult a physician.

Inhalation (breathing): Remove to fresh air. If symptoms develop, seek immediate medical attention. If not breathing, give artificial respiration.

Ingestion(swallowing): Call a physician immediately. Induce vomiting only as directed by medical personnel.

Note to Physician: Because of possible disturbance of cardiac rhythm, catecholamine drugs, such as epinephrine, should only be used with special caution in situations of emergency life support.

SECTION 5 : FIRE-FIGHTING MEASURES

Flash Point: Nonflammable.

Explosive Limit:: LEL (%): Not Determined; UEL(%): Not Determined;

Autoignition Temperature: > 743°C (> 1369°F).

Hazardous Combustion and Decomposition Product: Somke, soot, and toxic/irritating fumes (i.e., carbon dioxide, carbon monoxide, etc.). Oxides of nitrogen.

Fire and Explosion Hazards: Cylinders may rupture under fire conditions. Decomposition may occur.

Extinguishing Media: Small Fires: Use dry chemical, carbon dioxide, halon, water, spray, or foam. Large Fires: Water, Spray, fog, or alcohol foam. Use media appropriate for surrounding materials.

Fire-Fighting Procedures/Equipment:: Use water to cool container. Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH-approved, positive-pressure, self-contained breathing apparatus (SCBA) and full protective clothing.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Evacuation: Isolate hazard area.

Contaminant::Safely stop discharge. Stop material from contaminating soil, or from entering sewers or bodies of water.

Clean-Up/Personal Protection Equipment:: Use supplied air respirator or self-contained breathing apparatus in enclosed space or if airborne exposure limits can be exceeded. See section 2.

Collection and Disposal: Stop discharge, if safe to do so. Use proper protective equipment. Use nonsparking tools and /or explosion-proof equipment. Stop ignition sources. Cover spills with absorbent clay or sawdust and place in closed closed chemical waste containers. Dispose of according to applicable local, state and feral regulations.

SECTION 7 : HANDLING AND STORAGE

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Storage Conditions: Store in a cool, dry, well-ventilated area away from heat, ignition sources, and direct sunlight, below 52°C (126°F). Always keep containers tightly closed.

Personal Hygiene: Wash thoroughly after handling, especially before eating, drinking, smoking, or using restroom facilities.

Empty Container Precautions: Do not reuse empty container for food, clothing, or products for human or animal consumption or where skin contact may occur.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls/Ventilation: Maintain airborne concentrations below the established exposure limits (See PEL and TLV in section 2) by providing adequate ventilation. General (dilution) ventilation may be acceptable, however, local exhaust Ventilation is recommended when vapors, mists, or dusts can be released.

Eye Protection : Wear safety goggles. An eye wash facility should be readily available.

Skin Protection: Wear protective clothing and appropriate impervious gloves. Because a variety of protective gloves Exist, always consult glove manufacturer to determine the proper type for specific operation.

Respiratory Protection : Avoid breathing vapor and/or mist. If occupational exposure limits are exceeded wear NIOSH/OSHA approved equipment. Determine the appropriate type by consulting the respirator manufacturer. High airborne concentrations may necessitate the use of self-contained breathing apparatus (SCBA) or a supplied air respirator. Respiratory protection programs must be in compliance with 29 CFR 1910.134.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL VALUES)

Appearance: Green

Odor: Slight ether

Physical State : Liquified gas

Specific Gravity (Water=1): NA

Solubility in Water: 0.15 WT% @25°C (77°F) @14.7 psia

pH: Not Applicable.

Boiling Range: -26.5°C (-15.7°F) @736mm Hg;

Volatile Organic Compounds (VOC) Content: 64.4%

Vapor Density: 3.6 (Air=1.0) @25°C(77°F).

Note: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of storage and use.

Conditions to Avoid: High temperatures, open flames.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.), forming hydrofluoric acid and possibly carbonyl fluoride.

SECTION 11: TOXICOLOGICAL INFORMATION

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		Fluorescent Dye*	Refrigerant (R-134a)
Oral LD50	Rat	> 5 g/kg	Not available
Dermal LD50	Rabbit	> 2 g/kg	Not available
Inhalation LC50	Rat	Not available	4 hr. ALC, 567,000 ppm
Eye Irritation	Rabbit	Slight to mild	Slight irritation
Skin Irritation	Rabbit	Mild irritation	Irritation

*Fluorescent Dye: Negative results were obtained in the Ames test. Negative results were obtained in the micronucleus assay.

SECTION 12: ECOLOGICAL INFORMATION

48-hr	EC50 Daphnia magna:	980 mg/l
50-hr	LC50 Rainbow trout	450 mg/l

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal: Dispose of in accordance with all local, state, and federal regulations.

General Statements: Federal regulations may apply to empty container. State and/or local regulations may be different.

General Recommendations: Contaminated HFC-134a can be recovered by distillation or removed to a permitted waste disposal facility.

Special Instructions: Be sure to contact the appropriate government environmental agencies if further guidance is required.

SECTION 14: TRANSPORT INFORMATION

DOT Shipping Name: 1,1,1,2-Tetrafluoroethane

DOT Label: Nonflammable

Gas Hazard Class: 2.2

UN No.: 1950

SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulatory information: This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SARA Title III Information: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right To Know Act of 1986 and of 40 CFR 372:

CAS	Name	%W
811-97-2-100	1,1,1,2-Tetrafluoroethane	64.4

Section 302-Extremely Hazardous Substances: No.

Section 302-Reportable Quantity: Not Applicable.

Section 311/312-Hazard Categories: Fire Hazard: No.; Sudden Release of Pressure Hazard: Yes;

Reactivity Hazard: No; Immediate (Acute) Health Hazard: Yes; Delayed (Chronic) Health Hazard: Yes.

TSCA: The chemical components of this product are contained on the Section 8(B) Chemical Substance Inventory List

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(40 CFR 710).

CERCLA: No regulated ingredients.

State Right-To-Know: Pennsylvania – New Jersey R-T-K:

NAME	NJ EIN/CAS	%w
Fluorescent Dye	80100312-5002P	7.8
Refrigerant (R-134a)	811-97-2-100	64.4
Polyalkylene Glycol	9038-95-3	27.8

SECTION 16: OTHER INFORMATION

USER' S RESPONSIBILITY: A bulletin such as this cannot be expected to cover all possible individual situations.

As the user has the responsibility to provide a safe workplace, all aspects of an individual operations should be examined to determine if, or where, precautions (in addition to those described herein) are required. Any health hazard and safety information contained herein should be passed on to your customers or employees, as the case may be.

DISCLAIMER OF LIABILITY: The information contained herein is , to the best of our knowledge and belief, accurate.

However, since the conditions of handling and use are beyond our control, we make no gurantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we can not gurantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the users to comply with all applicable federal, state and local laws and regulations.

NA= Not Available