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Retchie ENGINEERING COMPANY, INC.
 10960 Hampshire Avenue South • Bloomington, MN 55438-2823 U.S.A.

Material Safety Data Sheet
 REC'D MAR 1 2 2001

Revision: N/A SP: 8/26/98

Section 1: Product Information

Name: Fluorescent Leak Scanner Solution 1,2,3,4,4-P,01
Description: Fluorescent Dye Solution
Use: Leak Detection
Appearance and Odor: Dark Reddish Liquid, Like Gas Oil

Emergency Telephone # 800-424-9300 (24 Hours) CHEMTREC
 For calls originating outside continental U.S.: 202-483-7616
Product Information: 612-943-1333
 Fax: 612-943-1605

Section 2: Hazardous Ingredients

A hazard evaluation of this product has been performed. The components listed below are identified as hazardous chemicals under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

| Product | Common Name/Chemical Name | CAS Number | %W | PEL (mg/m ³) | TLV (mg/m ³) |
|---------------------------------------|---------------------------|------------|-------|--------------------------|--------------------------|
| Fluorescent Leak Scanner Solution 1 | Fluorescent Dye Solution | See Below | 5-20 | NA | NA |
| | Lubricant Oil | See Below | 80-95 | 5 | 5 |
| Fluorescent Leak Scanner Solution 2 | Fluorescent Dye Solution | See Below | 10-25 | NA | NA |
| | Lubricant Oil | See Below | 75-90 | 5 | 5 |
| Fluorescent Leak Scanner Solution 3 | Fluorescent Dye Solution | See Below | 35-55 | NA | NA |
| | Lubricant Oil | See Below | 45-65 | 5 | 5 |
| Fluorescent Leak Scanner Solution 4 | Fluorescent Dye Solution | See Below | 40-60 | NA | NA |
| | Lubricant Oil | See Below | 40-60 | 5 | 5 |
| Fluorescent Leak Scanner Solution 4-P | Fluorescent Dye Solution | See Below | 40-60 | NA | NA |
| | Lubricant Oil | See Below | 40-60 | 5 | 5 |
| Fluorescent Leak Scanner Solution 01 | Fluorescent Dye Solution | See Below | 40-60 | NA | NA |
| | Lubricant Oil | See Below | 40-60 | 5 | 5 |

Fluorescent Dye Solution: The specific identity has been withheld as a trade secret. New Jersey Trade Secret Registry Number 80100312-500 P.
Lubricant Oil: The specific identity has been withheld as a trade secret. New Jersey Trade Secret Number 80100312-5001 P.

Section 3: Emergency and First Aid Procedures

Eye Contact: Flush eyes with water for at least 15 minutes. If irritation develops, consult a physician. **Skin Contact:** Wash affected area with soap and water. If irritation develops, consult a physician. Wash contaminated clothing separately before reuse. **Inhalation:** Medical attention is not normally required. **Ingestion:** Seek medical attention. Unless advised otherwise, induce vomiting by either giving syrup of ipecac followed by 2 glasses of water or by sticking finger down throat. Do not give anything by mouth if the person is drowsy, unconscious or has no gag reflex. Ingestion creates a high risk of aspiration and subsequent chemical pneumonitis. However, the presence of aromatic and/or chlorinated hydrocarbons makes evacuation of the stomach advisable. **Note of Physician:** Treatment should be directed at preventing absorption, administering to the symptoms as they occur, and providing supportive therapy.

Section 4: Health Effects Summary

Primary Route(s) of Exposure: Eye: Yes Skin: Yes Inhalation: Yes
Eye Contact: Can cause mild to moderate irritation. The severity of reaction depends on duration of exposure and first aid procedures administered. **Skin Contact:** Irritation can occur following prolonged or repeated contact. **Inhalation:** Under normal conditions of use, no adverse effects are expected. **Ingestion:** Ingestion can cause gastrointestinal irritation. **Aggravation of Existing Conditions:** Exposure to this product is not expected to contribute to, worsen or aggravate any existing medical conditions.

Section 5: Toxicologic Information

This section provides relevant information with regard to the toxicity of the "pure" form of the component(s) identified in section 2, as well as the results of any toxicity studies performed on the product. Though detailed, this information can be subject to misinterpretation. It is, therefore, essential that the following information be interpreted by individuals trained in its evaluation.

Fluorescent Dye Solution

Toxic Effects: Eye contact and prolonged or repeated skin contact may cause irritation. Ingestion may cause gastrointestinal irritation.
Acute Toxicity Studies: Oral-Rat LD50: >5 G/KG Dermal-Rabbit LD50: >2G/KG
Other Toxicity Studies: This material was negative in the Ames Salmonella Plate Assay.
Carcinogenicity - Listed By: ACGIH: No IARC Monographs: No NTP Annual Report: No OSHA: No

Lubricant Oil

Toxic Effects: Considered an OSHA hazardous substance base on established airborne exposure limits for oil mists.
Carcinogenicity - Listed By: ACGIH: No IARC Monographs: No NTP Annual Report: No OSHA: No

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Section 6: Occupational Control Procedures

Eye Protection: Wear chemical splash goggles or safety glasses with side shields. **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. **Ventilation:** Maintain airborne concentrations below the established exposure limits (see TLV and PEL 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. **Personal Hygiene:** Wash thoroughly after handling, especially before eating, drinking, smoking or using restroom facilities. Contaminated clothing and shoes should be thoroughly cleaned and dried before reuse.

Section 7: Fire Protection Information

Flash Point: Greater than 200°F (93.3°C) **Test Method:** Pensky Martins closed cup
Explosive Limit: LEL (%) Not Established UEL (%) Not Established **Autoignition Temperature:** Not Established
Extinguishing Media: **Small Fires:** Use dry chemical, carbon dioxide or chemical foam
Large Fires: Use water spray, fog or foam

Special Fire Fighting Procedures: Fire fighters and other 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. Avoid using water on burning materials to reduce splattering and spreading of fire.

Unusual Fire and Explosion Hazards: May liberate irritating or toxic vapors during combustion or decomposition.

Section 8: Reactivity Data

Stable Under Normal Conditions of Storage and Use: Yes **Materials to Avoid:** Oxidizing agents and reducing agents **Hazardous Polymerization:** Will not occur. **Thermal Decomposition Products:** If heated to high temperatures, this product may emit smoke, soot and toxic fumes (e.g. carbon monoxide and carbon dioxide).

Section 9: Physical Data

Specific Gravity (H₂O = 1): 0.85-0.90 **Vapor Pressure 68°F (20°C):** <1 mmHg **Vapor Density (Air=1):** > 1
Percent Volatile by Volume: (%): 0 **Evaporation Rate (Butyl Acetate = 1):** <1 **Solubility in Water:** Insoluble **pH:** NA
Boiling Range: >300°F (149°C)

Section 10: Spill and Leak Procedures

Response to Spills: Stop discharge and contain material. Use an absorbent such as fuller's earth, clay or other appropriate synthetic absorbent. Place contaminated material in a suitable container for disposal. **Precautions:** Eliminate all sources of ignition. **Disposal Methods:** The methods of disposal currently available vary by location. It is recommended that an alternative be selected according to the following order of preference, based upon environmental acceptability: (1) recycle or rework if at all feasible, (2) incinerate at an authorized facility, or (3) treat at an acceptable water treatment facility.

Section 11: Special Precautions

Recommended Storage Practice and Conditions: Store in a cool, dry, well-ventilated area. Do not store near heat or ignition sources. Always keep containers tightly closed to avoid contamination. **Special Warning:** Hot organic chemical vapors or mists can suddenly and without warning combust when mixed with air.

Section 12: Label and Transportation Information

DOT Shipping Name: Not regulated **DOT Label:** Not applicable **DOT Identification #:** Not applicable
Nonregulated for shipments by air under 49 CFR, IATA/ICAO and IMO.

Section 13: 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 operation 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. Ritchie Engineering Company, Inc. must relay on the user to utilize the information we have supplied to develop work practice guidelines and employee instructional programs for the individual operation.

Section 14: Regulatory Information

Toxic Substance Control Act (TSCA): The chemical compounds of this product are contained on the Section 8 (B) Chemical Substance Inventory List (40 CFR 710)

SARA Title III Information

Section 313 – Toxic Chemicals: Pursuant to Section 313 of SARA title III, this product does not contain a toxic chemical in excess of 1% of the mixture (.01%, if the listed toxic chemical is a carcinogen). **Section 302 – Extremely Hazardous Substances:** No **Section 311/312 – Hazard Categories:** Fire Hazard: Yes **Sudden Release of Pressure Hazard:** No **Reactivity Hazard:** No
Immediate (Acute) Health Hazard: Yes **Delayed (Chronic) Health Hazard:** No