

SPECTRONICS CORPORATION

SAFETY DATA SHEET

GS-101/E

Effective: 28/1/15

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Supersedes: 20/8/14

Section 1: Identification

GHS Product Identifier: GS-101/E

Other Names: GS-101/ECS, GS-101E/J

Use of Product: Leak Detection

Description: Fluorescent Dye for Air Conditioning Systems

Company Information:

Spectronics Corporation

956 Brush Hollow Road

Westbury, New York 11590

800-274-8888

516-333-4840 (for calls originating outside continental U.S.)

sds@spectroline.com

Emergency Contact:

US & Canada 800-424-9300 (24 HOURS) CHEMTREC; Call collect outside continental US & Canada: 703-527-3887.

Section 2: Hazardous Identification

Pictogram: No Pictogram required

Signal Word: None

Physical Hazards: Not Classified

Health Hazard: This product is not classified as hazardous according to OSHA 1910.1200.

Environmental Hazard: No known significant effects or critical hazards

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

2.1 GHS Label Elements:

This product is not classified as hazardous according to the GHS.

2.2 CLP Label Elements:

This product is not classified as hazardous according to Regulation EC 1272/2008 (CLP)

Section 3: Composition/Information on Ingredients

Chemical Identity: GS-101/E

Synonyms: See Section 1 Above

Common Name/ Chemical Name	CAS Number	ELINCS	% W
Polyol Ester Oil	See Below	See Below	80-85
Fluorescent Dye	See Below	See Below	15-20

Polyol Ester Oil: The specific identity and composition has been withheld as a trade secret. NJTSRN: 80100312-5003

Fluorescent Dye: The specific identity and composition has been withheld as a trade secret. NJTSRN: 80100312-5007

Section 4: First-Aid Measures

Primary Routes of Exposure:

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

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

Skin Contact: Wash affected area with soap and water and rinse thoroughly. If irritation develops, consult a physician.

Ingestion: Give water. Call a physician immediately. Do not induce vomiting.

Aggravation of Existing Conditions: Exposure to this product is not expected to contribute to, worsen or aggravate any existing medical conditions.

Most Important Symptom: Treat symptomatically.

Section 5: Fire-Fighting Measures

Flash Point: 500°F (260°C)

Test Method: Pensky-Martens Closed Cup

Explosive Limit: LEL (%): No data available; UEL (%): No data available

Autoignition Temperature: No data available

Unusual Fire and Hazardous Combustion and Decomposition Products: Smoke, soot, and toxic/irritating fumes (i.e., carbon dioxide, carbon monoxide, etc.). Oxides of nitrogen and carbon.

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

Extinguishing Media: Based on the NFPA guide, use dry chemical, carbon dioxide, water mist, water jet sprays, halogen, or alcohol foam suitable for Class B fires. Use water to cool containers exposed to fire. For large fires, use water spray, fog or alcohol foam, thoroughly drenching the burning material.

Unsuitable Extinguishing Media: High volume water with full jet. Oxidizers and reducers.

Fire-Fighting Procedures/Equipment: 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. Water can be used to cool and protect containers and surroundings.

Section 6: Accidental Release Measures

Non-Emergency Personnel:

General Advice: Avoid inhalation and contact with skin, eyes, or clothing. Wash hands and face before eating, drinking, or using tobacco products.

Personal Protective Equipment Needed: Wear impervious gloves, shoes, and protective clothing

Emergency Personnel:

Suitable Protective Gear: Wear impervious gloves, shoes and protective clothing.

Unsuitable Protective Gear: Not Applicable

Environmental Precautions: Prevent any contamination of local soils and water supply. Prevent ground water infiltration or any ground penetration. Avoid the spreading or entering into watercourses by using sand, soil, or other types of barriers. If contamination into water course or sewage system, alert appropriate authorities.

Containment/Clean-up Methods:

Containment & Recovery of Product: Contain with absorbent material, such as clay, soil, universal binding medium, or any commercially available absorbent. Shovel reclaimed dye and absorbent into a recovery or salvage drums for disposal. For larger spills, transfer to a salvage tank for recovery or safe disposal. Any residues should be treated like a small spill. This is not a RCRA hazardous waste per Title 40 CFR 261. Stop material from contaminating soil, or from entering sewers or bodies of water. For larger spills, transfer to a salvage tank for safe recovery/disposal. Residues are treated as small spills.

Disposal: Either incinerate or land fill in accordance with applicable local, state and federal regulations.

Section 7: Handling and Storage

Handling Precautions: Use product only in well ventilated areas. Avoid breathing in mists or vapors from a heated product. Avoid formation of mists. Avoid heating product near flash point. Avoid prolonged or repeated contact with skin. Handle in ambient temperature.

Storage Conditions: Store in a cool, dry, well-ventilated area away from heat, ignition sources, and direct sunlight. Always keep containers tightly closed. Store away from oxidizing and reducing agents.

Personal Hygiene: Wash hands before breaks and at the end of the work day. Do not carry cleaning clothes used to absorb product in clothing. General hygiene measures for chemicals apply.

Empty Container Precautions: Do not reuse empty container for any purpose.

Special Warnings: Hot organic chemical vapors or mists can suddenly and without warning combust when mixed with air.

Section 8: Exposure Controls/Personal Protection

Occupational Exposure Limits: No exposure limits have been established for this product.

Biological Exposure Limits: No data available

Engineering Controls/Ventilation: Maintain airborne concentrations below the established exposure limits by providing adequate ventilation. General (dilution) ventilation should be acceptable. Additional local exhaust ventilation is recommended where dusts, mists or vapors may be released.

Airborne Oil Mist Exposure Limits: Polyol Ester Oil

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

Personal Protective Equipment:

Respiratory Protection: Avoid breathing vapor and/or mist. If occupational exposure limits are exceeded wear NIOSH/OSHA approved equipment. Use a respiratory protection fitted with a combination filter A-P3 for short term use. 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.

Skin Protection: Wear protective clothing and appropriate impervious gloves.

Eye Protection: Wear safety goggles with peripheral coverage approved to EU Standard EN 166, AS/NZS 1337. An eye wash facility should be readily available.

Hand Protection: When in contact with material, be sure to use proper gloves approved to standards (Europe: EN 374, U.S.: F739, & AS/NZS: 2161). Gloves made from neoprene, nitrile or butyl rubber may provide suitable chemical protection.

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

Section 9: Physical and Chemical Properties

Physical State: Liquid

Appearance: Amber

Odor: Aromatic hydrocarbon

Odor Threshold: no data available

pH: no data available

Melting Point: No data available

Freezing Point: No data available

Initial Boiling Point: 399°F (204°C)

Boiling Range: no data available

Flash Point (COC): Greater than 305° F (152° C)

Evaporative Rate: No data available

Solid Flammability: No data available

Gas Flammability: No data available

Upper Explosive Limit: No data available

Lower Explosive Limit: No data available

Vapor Pressure 68° F (20° C) : <0.01 mmHg

Vapor Density (Air= 1) : >1

Relative Density: 0.98

Solubility in Water: < 0.1 %

Partition Coefficient: n-octanol/water: No data available

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

Viscosity at 40°C: 48.8

Viscosity at 100°C: no data available

Percent Volatile by Volume (%): 0

Evaporation Rate (Butyl Acetate=1): < 0.01

Volatile Organic Content (VOC) Component: None

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

Section 10: Stability and Reactivity

Reactivity: This product is non-reactive under ambient conditions

Stability: Stable under normal conditions of use.

Conditions to Avoid: High temperatures & a source of ignition. Toxic fumes may be released if product is heated above decomposition point.

Incompatible Materials: Strong Acids, Strong oxidizing agents, and Reducing agents

Hazardous Decomposition Products: In the event of combustion, CO and CO₂ will be formed.

Hazardous Polymerization: Will not occur

Section 11: Toxicological Information

		Fluorescent Dye	Polyol Ester Oil
Oral LD ₅₀	Rat	>5,000 mg/kg	>2,000 mg/kg
Dermal LD ₅₀	Rabbit	>2,000 mg/kg	>2,000 mg/kg
Inhalation LC ₅₀	Rat	>12 mg/l	>5.1 mg/l
Eye Irritation	Rabbit	Not Irritating	Not Irritating
Skin Irritation	Rabbit	>4	No data available

Carcinogenicity:

Carcinogenicity	ACGIH	IARC	NTP	OSHA
Polyol Ester Oil	No	No	No	No
Fluorescent Dye	No	No	No	No

Summary Comments: According to ACGIH, IARC, NTP, and OSHA, the polyol ester and the fluorescent dye are not considered to be a hazardous carcinogen to humans.

Reproductive Toxicity: No data available

STOT-single exposure: No data available

STOT-repeated exposure:

		Fluorescent Dye	Polyol Ester Oil
Oral mg/kg	Rat	No data available	1,613
Dermal mg/kg	Rat	No data available	No data available
Inhalation mg/l/4h	Rat	No data available	No data available

Aspiration Hazard: No

Likely Routes of Exposure: Eyes, skin and respiratory tract

Symptoms:

Eye Contact: May cause mild irritation

Skin Contact: May cause mild irritation

Inhalation: May cause mild respiratory irritation

Ingestion: May cause gastrointestinal irritation

Section 12: Ecological Information

Toxicity:

	Fluorescent Dye	Polyol Ester Oil
Fish LL ₅₀ 96hr mg/l	No data available	>100mg/l
Crustacean LL ₅₀ 96hr. mg/l	No data available	> 10,000 mg/L
Algae NOEL 72hr. mg/l	No data available	>100mg/l

Persistence & Degradability: No data available

Bioaccumulation Potential: No data available

Mobility in Soil: No data available

Behavior in Sewage Plants: No data available

Section 13: Disposal Considerations

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

Disposal: Recover or recycle if possible, otherwise, dispose of in accordance with all local, state, and federal regulations. Sewage disposal is discouraged

Special Instructions: Be sure to contact the appropriate government environmental agencies if further guidance is required. Do not remove labels from container until container is cleaned properly. Containers can be reused or disposed of by landfill or incineration if appropriate to local law. Water with cleaning agents is required

Hazardous Waste Number: Not a RCRA hazardous waste

Section 14: Transport Information

General Comments: This product is not classed as hazardous or regulated for transport under 49 CFR, IATA/ICAO, or IMDG

49 CFR:

DOT Shipping Name: Not Regulated

DOT Label: N/A

DOT Identification No.: Not Applicable; Nonregulated shipments by air under 49 CFR, IATA/ICAO AND IMO

Transport by Road/Rail (ADR/RID):

UN Proper Shipping Name: Not Applicable

Transport Hazard Class: Not Applicable

Packing Group: Not Applicable

Classification Code: Not Applicable

LQ (ADR 2013): Not Applicable

LQ (ADR 2009): Not Applicable

Environmental Hazard: Not Applicable

Tunnel Restriction Code: Not Applicable

Transport by Sea (IMDG):

UN Proper Shipping Name: Not Applicable

Transport Hazard Class: Not Applicable

Packing Group: Not Applicable

Marine Pollutant: Not Applicable

Environmental Hazard: Not Applicable

Transport by Air (IATA):

UN Shipping Name: Not Applicable

Transport Hazard Class: Not Applicable

Packing Group Number: Not Applicable

Environmental Hazards: Not Applicable

Special Precautions for User: Unless otherwise specified, general measures for safe transport must be followed

Transport in Bulk: Non-dangerous material according to transport regulations

Section 15: Regulatory Information

Inventory Status:

Polyol Ester Oil: is listed or are excluded from listing on TSCA, DSL, & AICS inventories

Fluorescent Dye: is listed or are excluded from listing on TSCA, DSL, AICS, IECSC, & ENCS inventories

SARA Title III Information: This product contains no chemicals subject to the reporting requirements of Section 313 of the emergency planning and community right to know act.

SARA - Section 302-Extremely Hazardous Substances: No regulated ingredients.

SARA - Section 302-Reportable Quantity: None.

SARA - Section 311/312-Hazard Categories:

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Fire Hazard: No

Sudden Release of Pressure Hazard: No

Reactivity Hazard: No

Immediate (Acute) Health Hazard: No

Delayed (Chronic) Health Hazard: No

Section 313-Toxic Chemicals: No regulated ingredients.

State Right-To-Know:

Pennsylvania - New Jersey R-T-K:

NAME	CAS NO. or NJ TSRN	%W
Polyol Ester Oil	NJ TSRN 80100312-5003	80-85
Fluorescent Dye	NJ TSRN 80100312-5007	15-20

Clean Air Act Amendments - Ozone-Depleting Chemicals: No regulated ingredients.

CONEG: This product is in compliance with CONEG (total cadmium, chromium, lead and mercury <100ppm

TSCA: The chemical components of this product are listed or excluded on the Section 8(B) Chemical Substance Inventory List (40 CFR 710).

CERCLA: No regulated ingredients.

California - California Proposition 65: This product contains no chemical(s) known to the state of California to cause cancer.

Canada – CEPA DSL/NDL: Not regulated

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 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.

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 guarantee 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 cannot guarantee 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.

END OF SAFETY DATA SHEET



SPECTRONICS CORPORATION
MATERIAL SAFETY DATA SHEET

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Section 1. Identification of the Substance/Preparation and Company

PRODUCT NAME: GS-1/E, GS-2/E, GS-3/E, GS-101/E.
DESCRIPTION: Fluorescent Dye for Air Conditioning and Refrigeration Systems Using Polyolester Lubricants USE: Leak Detection
EMERGENCY TELEPHONE #: 800-424-9300 (24 HOURS) CHEMTREC; Call collect outside continental U.S.: 703-527-3887.
PRODUCT INFORMATION: Spectronics Corporation, 956 Brush Hollow Road, Westbury, NY 11590, 800-274-8888.
For calls originating outside continental U.S.: 516-333-4840.

Section 2. Composition/Information on Ingredients

Table with 6 columns: Product, Common Name/Chemical Name, CAS Number, % W, PEL(mg/m³), TLV(mg/m³). Rows include GS-1/E, GS-2/E, GS-3/E, and GS-101/E, all listing Fluorescent Dye and Lubricant Oil with corresponding CAS numbers and exposure limits.

Lubricant Oil: The specific identity has been withheld as a trade secret. New Jersey Trade Secret Registry Number NJ EIN 80100312-5004P.
Fluorescent Dye: The specific identity has been withheld as a trade secret. New Jersey Trade Secret Registry Number NJ EIN 80100312-5002P.

*Airborne Oil Mist Exposure Limits: Lubricant Oil
ACGIH TLV: 5 mg/m³, 8 hr ACGIH STEL: 10 mg/m³ OSHA PEL: 5 mg/m³, 8 hr

Section 3. Hazards Identification

EMERGENCY OVERVIEW: May cause eye, skin and respiratory system irritation.
Primary Routes of Exposure: Eye. Skin. Inhalation (breathing).
Eye Contact: Can cause mild irritation. Skin Contact: Irritation can occur following prolonged or repeated contact. Inhalation (breathing): Processing vapors can possibly cause irritation to the upper respiratory tract. Ingestion (swallowing): Ingestion can cause gastrointestinal irritation. Aggravation of Existing Conditions: A review of available data does not identify worsening of any existing medical conditions.
Carcinogenicity: ACGIH IARC NTP OSHA
Fluorescent Dye No No No No
Lubricant Oil No No No No
HMIS HAZARD RATING: Health: 1, Fire: 1, Reactivity: 0.

Section 4. First-Aid Measures

Eye Contact: Flush eyes with water for 15 minutes. If irritation develops, consult a physician. Skin Contact: Wash affected area with soap and 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.

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Section 5. Fire-Fighting Measures

Flash Point: >400°F (204°C); **Test Method:** Not tested; **Explosive Limit:** LEL(%): Not Determined; UEL(%): Not Determined; **Autoignition Temperature:** Not Determined. **Unusual Fire and Hazardous Combustion and Decomposition Products:** Smoke, soot, and toxic/irritating fumes (i.e., carbon dioxide, carbon monoxide, etc.) Oxides of nitrogen. **Fire and Explosion Hazards:** May liberate irritating or toxic vapors during combustion or decomposition. **Extinguishing Media:** Small fires: use dry chemical, carbon dioxide, halon, water spray, or foam. For large fires: use water spray, fog, or alcohol foam. **Fire-Fighting Procedures/Equipment:** 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

Spill Containment and Recovery: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed dye and absorbent into a recovery or salvage drums for disposal. **Disposal:** Either incinerate or land fill in accordance with applicable local, state and federal regulations.

Section 7. Handling and Storage

Storage Conditions: Store in a cool, dry, well-ventilated area away from heat, ignition sources, and direct sunlight. 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 any purpose.

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 should be acceptable. **Eye Protection:** Wear safety goggles. An eye wash facility should be readily available. **Skin Protection:** Wear protective clothing and appropriate impervious gloves. **Respiratory Protection:** Avoid breathing vapor and/or mist. If occupational exposure limits are exceeded wear NIOSH/OSHA approved equipment. 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

Appearance: Amber; **Odor:** Mild; **Physical State:** Liquid; **Specific Gravity (Water=1):** 0.98; **Vapor Pressure 68° F (20° C):** < 0.01 mmHg @ 20° C; **Vapor Density (Air=1):** >1; **Percent Volatile by Volume (%):** 0; **Evaporation Rate (Butyl Acetate=1):** < 0.01; **Solubility in Water:** Not Soluble; **pH:** Not Applicable; **Boiling Range:** 400 °F (204 °C).

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. **Incompatibility with Other Materials:** Oxidizers and reducers; **Hazardous Polymerization:** Will not occur. **Hazardous Decomposition Products:** Combustion may produce carbon monoxide and carbon dioxide.

Section 11. Toxicological Information

No data are available on this product.

Section 12. Ecological Information

No data are available on this product.

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

Section 14. Transport Information

DOT Shipping Name: Not Regulated; **DOT Label:** Not Applicable; **DOT Identification No.:** Not Applicable; Nonregulated shipments by air under 49 CFR, IATA/ICAO AND IMO.

Section 15. Regulatory Information

U.S. Federal Regulatory Information:

This product is not considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SARA Title III Information:

Ozone-Depleting Chemicals: No regulated ingredients. **Section 302-Extremely Hazardous Substances:** No regulated ingredients. **Section 302-Reportable Quantity:** None. **Section 311/312-Hazard Categories:** Fire Hazard: No; Sudden Release of Pressure Hazard: No; Reactivity Hazard: No; Immediate (Acute) Health Hazard: Yes; Delayed (Chronic) Health Hazard: No. **Section 313-Toxic Chemicals:** No regulated ingredients.

TSCA: The chemical components of this product are contained on the Section 8(B) Chemical Substance Inventory List (40 CFR 710).

CERCLA: No regulated ingredients.

State Right-To-Know:

Pennsylvania - New Jersey R-T-K:

NAME	CAS NO. or NJ TSRN
Fluorescent Dye	EIN 80100312-5002P
Lubricant Oil	EIN 80100312-5004P

California - California Proposition 65 - No regulated ingredients.

CONEG: No data available.

Canada: This is a "controlled product" under the Canadian Workplace Hazardous Materials Information System (WHMIS).

Class B Division 3 Class D Division 2 Subdivision B

CEPA - NPRI - No regulated ingredients.

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 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.

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 guarantee 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 cannot guarantee 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

End of Material Safety Data Sheet