Common Name: GS-1, GS-2, GS-3, GS-101
Manufacturer: SPECTRONICS
MSDS Revision Date: 6/23/2010

Grainger Item Number(s): 14A015, 14A016, 14A017, 14A018, 6T492, 6T493, 6T515, 6T516
Manufacturer Model Number(s):

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**MATERIAL SAFETY DATA SHEET**

SPECTRONICS CORPORATION

GS SERIES

EFFECTIVE: 06/23/10

SUPERSEDES: 04/27/10

**SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION**


DESCRIPTION:
FLUORESCENT DYE FOR AIR CONDITIONING AND REFRIGERATION SYSTEMS USING MINERAL OIL 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.


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**SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>COMMON NAME/CHEMICAL NAME</th>
<th>CAS NUMBER</th>
<th>% W</th>
<th>PEL (MG/M3)</th>
<th>TLV (MG/M3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS-1</td>
<td>FLUORESCENT DYE LUBRICANT OIL</td>
<td>SEE BELOW 5-20</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>GS-2</td>
<td>FLUORESCENT DYE LUBRICANT OIL</td>
<td>SEE BELOW 10-30</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>GS-3</td>
<td>FLUORESCENT DYE LUBRICANT OIL</td>
<td>SEE BELOW 35-55</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>GS-101</td>
<td>FLUORESCENT DYE LUBRICANT OIL</td>
<td>SEE BELOW 40-60</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

LUBRICANT OIL:
The specific identity has been withheld as a trade secret. New Jersey Trade Secret Registry number NJ EIN 80100312-5001P.

FLUORESCENT DYE:
The specific identity has been withheld as a trade secret. New Jersey Trade Secret Registry number NJ EIN 80100312-5000P.

*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

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**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 IRRITATING OR ANY DURING
A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY WORSENSING OF ANY EXISTING MEDICAL CONDITIONS.

<table>
<thead>
<tr>
<th>Carcinogenicity</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorescent Dye</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Lubricant Oil</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

HMD 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.

SECTION 5. FIRE-FIGHTING MEASURES

Flash point: Greater than >200 deg. F (93.3 deg. C)
Test method: Setaflash closed cup

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.).

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, or alcohol foam suitable for class B fires. Use water to cool containers exposed to fire. For large fires, use water spray or fog, thoroughly drenching the burning material.

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 COMMERCIALY
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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: DARK RED

ODOR: LIGHT BLEND PETROLEUM

PHYSICAL STATE: LIQUID

SPECIFIC GRAVITY (WATER=1): 0.85-0.9

VAPOR PRESSURE 68 DEG. F (20 DEG. C): NA

VAPOR DENSITY (AIR=1): NA

PERCENT VOLATILE BY VOLUME (%): 0
EVAPORATION RATE (BUTYL ACETATE=1): <1

SOLUBILITY IN WATER: NONE

pH: NOT APPLICABLE

BOILING RANGE: >540 DEG. F (282.2 DEG. 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

FLUORESCENT DYE*:

ORAL LD50 RAT >5000 MG/KG
DERMAL LD50 RABBIT >5000 MG/KG
INHALATION LC50 RAT NOT AVAILABLE
EYE IRRITATION RABBIT SLIGHT TO MILD IRRITATION
SKIN IRRITATION RABBIT MILD IRRITATION

*FLUORESCENT DYE:
NEGATIVE RESULTS WERE OBTAINED IN THE AMES TEST. NEGATIVE RESULTS WERE OBTAINED IN THE MICRONECULEUS ASSAY.

SECTION 12. ECOLOGICAL INFORMATION

NO DATA ARE AVAILABLE ON THIS PRODUCT.

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:

SARA TITLE III INFORMATION:
OZONE-DEPLETING CHEMICALS: NO REGULATED INGREDIENTS.
SECTION 302-EXTRREMELY 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 EIN 80100312-5000P
LUBRICANT OIL EIN EIN 80100312-5001P

CALIFORNIA - CALIFORNIA PROPOSITION 65: NO REGULATED INGREDIENTS.

CONEG: NO DATA AVAILABLE.

CANADA:
NOT CONTROLLED. THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL OF THE INFORMATION REQUIRED BY THE CPR.

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