1. Product and Company Identification

Product name: CLEANING LIQUID FOR SOL INK, SL-CL
CLEANING LIQUID,(SL) 100ML
CLEANING LIQUID,(SL) 500ML

Manufacture: Roland DG Corporation
Address: 1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi, Shizuoka-ken, 431-2103
JAPAN
Phone: + 81-53-484-1224
Fax: + 81-53-484-1226

Importer/Supplier: Roland DGA Corporation
Address: 15363 Barranca Parkway Irvine, CA 92618-2201
U.S.A.
Phone: 949-727-2100
Fax: 949 727 2112

Use of the product: Inkjet Printing
Date of issue: 21 December, 2015

2. Hazard Identification

2.1 Emergency Overview:
Appearance and odor: Clear liquid and slightly odor

This product is classified as dangerous according to GHS.
Flammable liquids Category 4
Skin corrosion/irritation Category 2

GHS label elements, including precautionary statements
Pictogram

Signal word(s) Warning

Hazard statement(s) Combustible liquid.
Causes skin irritation.

Precautionary statement(s)
Prevention Keep away from flames and hot surfaces. — No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.

Response IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.

Storage Store in a well-ventilated place. Keep cool.
2.2. OSHA regulatory status
This product is considered hazardous material by the OSHA Communication Standard (29 CFR 1910.1200)

2.3. Potential health effects
Likely route of exposure: Eye, skin, inhalation or oral.
Eyes: Contact with eye may be mildly irritating.
Skin: Contact with skin may cause irritation, swelling or redness.
Inhalation: Exposure to vapors (mist) will cause respiratory irritation and anesthesia.
Ingestion: May cause upset stomach.
Chronic Health Hazards: None Known.
Carcinogenicity: None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)

See section 11 for more information.

2.4. Potential environmental effects
See section 12 for Ecological information.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Composition</th>
<th>CAS No.</th>
<th>% By Weight</th>
<th>Classification HCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipropylene glycol monomethyl ether</td>
<td>34590-94-8</td>
<td>40-50</td>
<td>Not classified as hazardous</td>
</tr>
<tr>
<td>Diethylene glycol diethyl ether</td>
<td>112-36-7</td>
<td>35-45</td>
<td>Skin Irrit. 2: H315</td>
</tr>
<tr>
<td>Triethylene glycol monomethyl ether</td>
<td>112-35-6</td>
<td>20-30</td>
<td>Not classified as hazardous</td>
</tr>
</tbody>
</table>

4. First Aid Measures
4.1. First aid procedures
Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician.
Skin: In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Ingestion: If swallowed, DO NOT induce vomiting. Seek immediate medical advice.

4.2. Note to physicians
May cause skin and eye irritation. Excessive inhalation of mist will cause respiratory irritation.
5. Fire Fighting Measures
5.1. Flammable properties:
   Combustible liquid under Hazard Communication Standard (HCS, U.S.A)
   Flash Point: about 71 deg.C (closed cup)

5.2. Extinguishing media
   Suitable extinguishing media:
   Water spray, dry chemical, carbon dioxide or foam
   Unsuitable extinguishing media:
   No information

5.3. Protection of fire fighters
   Special hazards arising from the substance or mixture
   Toxic and irritating fume and/or gases may generate by combustion.

   Protective equipment and precautions for firefighters
   Wear self-contained breathing apparatus (SCBA) and full protective equipment.
   Applying direct water may be dangerous because fire may expand to surroundings.

6. Accidental Release Measures
General:
   Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse
   effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions
   Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus and wear appropriate
   personal protective equipment.

6.2. Environmental precautions
   Wipe off spillage. Prevent liquid from entering sewers, waterways or low areas.

6.3. Methods for containment
   Dike spilled product.

6.4. Methods for Clean-up
   Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and
   water.

6.5. Other information
   No information

6.6. Spill or leak statements by type of chemical
   Eliminate all ignition sources. Use appropriate personal protective equipment (PPE). Absorb and/or contain spill
   with inert sand, then place in suitable container. For large spills; use water spray to disperse vapors and dilute
   spill to a nonflammable mixture. Do not flush to sewer. Prevent run-off from entering drains, sewers or waterways.

7. Handling And Storage
7.1. Handling
   Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Put protection wear that has
   electrical conductivity in case of work. Keep out of reach of children and do not drink. Do not dismantle container.

7.2. Storage
   Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product
   with oxidizing agents or explosives.
8. Exposure Controls/Personal Protection

8.1. Exposure Guidelines

Occupational Exposure Limits:

EU:

<table>
<thead>
<tr>
<th>components</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipropylene glycol monomethyl ether</td>
<td>308mg/m³, 50ppm</td>
</tr>
</tbody>
</table>

Australia: OELs

<table>
<thead>
<tr>
<th>components</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipropylene glycol monomethyl ether</td>
<td>308mg/m³, 50ppm</td>
</tr>
</tbody>
</table>

US:

<table>
<thead>
<tr>
<th>components</th>
<th>OSHA:PEL</th>
<th>ACGIH:TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipropylene glycol monomethyl ether</td>
<td>TWA: 600mg/m³, 100ppm</td>
<td>TWA: 100ppm, 606 mg/m³ STEL: 150ppm, 909 mg/m³</td>
</tr>
</tbody>
</table>

California (California Code of Regulations, Title 8, Section 5155. Airborne Contaminants):

<table>
<thead>
<tr>
<th>components</th>
<th>PEL</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipropylene glycol monomethyl ether</td>
<td>100ppm, 600 mg/m³</td>
<td>150ppm, 900 mg/m³</td>
</tr>
<tr>
<td>Diethylene glycol diethyl ether</td>
<td>5ppm, 33mg/m³</td>
<td>-</td>
</tr>
</tbody>
</table>

8.2. Engineering controls

Control the airborne concentrations below the exposure limits. Use only with adequate ventilation.

8.3. Personal protective equipment (PPE)

Eye/face protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear safety glasses or chemical splash goggles.

Hand protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves.

Skin protection: Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear protective clothing.

Respiratory protection: In case ventilation is insufficient, wear respiratory protection. Use a half facepiece respirator (with gollges) or full face-piece respirator (without goggles) filtered with organic vapor cartridge.

General hygiene measures: Wash hands after handling. In case contact with clothing, wash before reuse. Do not eat, drink or smoke in handling or storage area.
9. Physical and Chemical Properties
   Appearance: Clear Liquid
   Odor: Slightly
   pH: No data available
   Boiling point: No data available
   Flash point: about 71 deg.C (closed cup)
   Flammability(solid,gas): No data available
   Explosive properties: Explosive limits: 1.3~10.4v/v% (Dipropylene glycol monomethyl ether)
   Oxidizing properties: None
   Vapor pressure: No data available
   Relative density: No data available
   Solubility: No data available
   Water Solubility: Soluble
   Partition coefficient: n-octanol/water: No data available
   Viscosity: No data available
   Vapor density: Greater than 1 (air=1)
   Evaporation rate: No data available
   Melting point: No data available
   Volatile organic compounds (VOC) content: 980.0 gram/liter (maximum value)

10. Stability and Reactivity
    10.1. Reactivity: No reactivity under normal temperature
    10.2. Possibility of hazardous reactions: Not expected
    10.3. Chemical stability: Stable under normal temperature
    10.4. Conditions to avoid: High and freezing temperatures
    10.5. Incompatible materials: Oxidizers and explosives
    10.6. Hazardous decomposition products: None under normal temperature

11. Toxicological information
    *Based on toxicology data of chemically similar material
    Acute toxicity:
    Oral LD$_{50}$ >2500mg/kg(Rat)*
    Dermal LD$_{50}$ >2000mg/kg(Rat)*
    Inhalant LC$_{50}$ No data available
    Skin corrosion/irritation: Mild irritant (Rabbit, OECD404)*
    Serious eye damage/eye irritation: Mild irritant (Rabbit, OECD405)*
    Respiratory or skin sensitisation: Non-sensitiser (LLNA, OECD 429)*
    Germ cell mutagenicity: Negative (by Ames Test)*
    Reproductive toxicity: No data available
    Carcinogenicity: None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)
    STOT-single exposure: Overexposure of eye may be mildly irritating.
    Overexposure of skin may cause irritation and in some people swelling and redness.
    Inhalation may result in respiratory irritation and anesthesia.
    Ingestion may cause an upset stomach.
    STOT-repeated exposure: No data available
    Aspiration hazard: No data available
12. Ecological Information

Ecotoxicity: No data available
Persistence/Degradability: No data available
Bioaccumulation/Accumulation: No data available
Mobility in environment media: No data available
Other adverse effects: No data available

13. Disposal Considerations

Treatment, storage, transportation and disposal must be in accordance with applicable federal, state/provincial, and local regulations. Do not flush to surface water or sanitary sewer system.

14. Transport Information

14.1. UN Class/UN Number:
ADR/ADG/DOT, IMDG, or IATA : Not regulated

14.2. UN proper shipping name:
ADR/ADG/DOT, IMDG, or IATA : Not regulated

14.3. Transport hazard class(es):
ADR/ADG/DOT, IMDG, or IATA : Not regulated

14.4. Packing group:
ADR/ADG/DOT, IMDG, or IATA : Not regulated

14.5. Environmental hazards:
ADR/ADG/DOT, IMDG, or IATA : Not regulated

14.6. Special precautions for user: Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC code: Not regulated

15. Regulatory Information

US Information:
Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.
Product contains Diethylene glycol diethyl ether that is subject to TSCA Section 5 SNUR and to TSCA Section 12(b) export notification requirements.
California Proposition 65: Not regulated

SARA TITLE III:
Section 313:
Diethylene glycol diethyl ether (Chemical Category N230)
Triethylene glycol monomethyl ether (Chemical Category N230)

EU Information:
Chemical Safety Assessment according to (EC)1907/2006:
This product has not carried out any Chemical Safety Assessment yet.

Australia Information:
Hazardous statement: Classified as hazardous according to NOHSC criteria.
16. Other Information

NFPA 704: Hazard Rating System

Health - 1, Flammable - 2, Reactivity - 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DG does not warrant the completeness or accuracy of the information contained herein.