Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking
1.1. Product identifier:
CLEANING LIQUID FOR EcoXtreme Ink, AI-CL
MAINTENANCE LIQUID FOR EcoXtreme Ink, AI-ML
CLEANING LIQUID,(AI-CL) 200ML/ CLEANING LIQUID,(AI-CL) 500ML

1.2. Relevant identified uses of the substance or mixture and uses advised against
Inkjet Printing

1.3. Details of the supplier of the safety data sheet
Manufacture's name: 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

2. Hazard identification
2.1. Classification of the substance or mixture
This product is not classified as hazardous according to GHS criteria.

2.2. GHS label elements, including precautionary statements
The product does not need to be labelled in accordance with GHS criteria.

2.3. Other hazards
Potential Health Effects
Eye: Contact with eye may be 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: No information available.
Carcinogenicity: None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Composition</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>EU registration No.</th>
<th>% By Weight</th>
<th>Classification EC No. 1272/2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-(2-butoxyethoxy)ethyl acetate</td>
<td>124-17-4</td>
<td>204-685-9</td>
<td>N/A for the moment</td>
<td>&gt;98%</td>
<td>Not classified as hazardous</td>
</tr>
</tbody>
</table>
4. First aid measures
4.1. Description of first aid measures

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. Most important symptoms and effects, both acute and delayed

Eyes: Contact with eye may be 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

4.3. Indication of any immediate medical attention and special treatment needed
No information

5. Firefighting measures
5.1. Extinguishing media

Suitable extinguishing media:
Water spray, dry chemical, carbon dioxide or foam

Unsuitable extinguishing media:
No information

5.2. Special hazards arising from the substance or mixture
Hazardous Decomposition Products: Burning in insufficient air supply may produce toxic fume of carbon monoxide.
Flash point: 105deg.C (closed cup)

5.3. Advice 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, protective equipment and emergency procedures
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 and material for containment and cleaning up
Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

6.4. Reference to other sections
Refer to “Section 8 Exposure controls/ personal protection” and “Section 13 Disposal consideration” as appropriate.
7. Handling and storage

7.1. Precautions for safe 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. Conditions for safe storage, including any incompatibilities

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.

7.3. Specific end use(s):

Inkjet printing

8. Exposure controls/ personal protection

8.1. Control parameters

Occupational Exposure Limits: Not specified.

8.2. Exposure controls:

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

Personal protective equipment:

Respiratory protection: Not required under suitable use as setting the cartridge on the printer. However, in case ventilation is not sufficient, wear respiratory protection.

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. **Recommended impervious gloves is butyl rubber glove.**

Eye protection: Not required under suitable use as setting the cartridge on the printer. However, in case of bottle container, wear safety glasses or chemical splash goggles.

Skin protection: Not required under suitable use as setting the cartridge on the printer. However, in case of bottle container, wear protective clothing.

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.

Environmental exposure control: Avoid release to the environment.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly solvent odor</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>245-247deg.C</td>
</tr>
<tr>
<td>Melting point</td>
<td>-32deg.C</td>
</tr>
<tr>
<td>Flash point</td>
<td>105deg.C (closed cup)</td>
</tr>
<tr>
<td>Autoflammarbility</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>explosive limit</td>
</tr>
<tr>
<td></td>
<td>-lower limits 0.6vol%</td>
</tr>
<tr>
<td></td>
<td>-upper limits 10.7vol%</td>
</tr>
</tbody>
</table>
### Oxidizing properties:
No data available

### Vapor Pressure:
5.3 Pa @ 20deg.C

### Vapor density:
7.0 (Air=1)

### Specific gravity:
0.98 g/cm³ @ 20deg.C

### Solubility in Water:
6.5 g/100ml @ 20deg.C

### Solubility in fat:
No data available

### Partition coefficient: n-octanol/water:
2.9

### Viscosity:
No data available

#### 9.2. Other information: No information

#### 10. Stability and reactivity

10.1. Reactivity: No data available
10.2. Chemical stability: Stable under normal temperature
10.3. Possibility of hazardous reactions: Not expected
10.4. Conditions to avoid: High and freezing temperatures
10.5. Incompatible materials: Acids and oxidizing agents
10.6. Hazardous decomposition products: Burning in insufficient air supply may produce toxic fume of carbon monoxide.

#### 11. Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Routes Of Overexposure</th>
<th>Acute toxicity</th>
<th>Skin corrosion/irritation</th>
<th>Respiratory or skin sensitisation</th>
<th>Germ cell mutagenicity</th>
<th>Reproductive toxicity</th>
<th>Carcinogenicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye, skin, inhalation, and oral</td>
<td>Oral LD50 &gt;6500mg/kg (Rat)</td>
<td>Mild irritant (Rabbit OECD404)</td>
<td></td>
<td>Negative (by Ames Test)</td>
<td>No data available</td>
<td>None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)</td>
</tr>
<tr>
<td>Dermal LD50 &gt;14500mg/kg (Rabbit)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalant LC50 &gt;72500mg/m³ (4hr@Rat)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

12.1. Toxicity: No data available
12.2. Persistence and degradability: No data available
12.3. Bioaccumulative potential: Expected to biodegrade.
12.4. Mobility in soil: No data available
12.5. Results of PBT and vPvB assessment: Has not carried out PBT and vPvB assessment.
12.6. Other adverse effects: No data available

Disclosure of this product and abandonment have a possibility of affecting environment. Then, cautions are required for handling. It is necessary to cope with it so that especially a product or washing water may not flow to the ground, a river, and a drain.
13. Disposal considerations
13.1. Waste treatment methods:
   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 Regulation:
   Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.
   SARA TITLE III:
   Section 313: 2-(2-butoxyethoxy)ethyl acetate  (Chemical Category N230)
   California Proposition 65: Not regulated

   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: Not classified as hazardous according to NOHSC criteria.

   International Information:
   None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B)

16. Other Information
   List of relevant H-Statements: Nothing

   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.