

## Safety Data Sheet

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

CLEANING LIQUID FOR ECO-SOL INK, ESL4-CL

#### 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

E-mail Address:

Revised date: 21 December, 2015

#### 1.4. Emergency telephone:

### 2. Hazard identification

#### 2.1. Classification of the substance or mixture

This product is classified as dangerous according to EU Directive 1999/45/EC.

Xi R38, R41

This product is classified as dangerous according to GHS.

Flammable liquids	Category 4
Acute toxicity - oral	Category 5
Eye damage/irritation	Category 1
Skin corrosion/irritation	Category 2

#### 2.2. GHS label elements, including precautionary statements

Pictogram



Signal word(s)

Danger

Hazard statement(s)

Combustible liquid.  
May be harmful if swallowed.  
Causes skin irritation.  
Causes serious eye damage.

**Precautionary statement(s)**

Prevention	Keep away from heat/sparks/open flames/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 IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  IF exposed or concerned: Get medical advice/attention. Take off contaminated clothing.

**2.3. Other hazards**
**Potential Health Effects:**

Eyes:	Causes severe eye injury which may persist for several days.
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)

**3. Composition/information on ingredients**
**Chemical nature:** mixture

Composition	CAS No.	EC No.	EU registration No.	% By Weight	Classification EC No. 1272/2008
Diethylene glycol diethyl ether	112-36-7	203-963-7	01-2119969946-13-0000	70-80	Skin Irrit. 2: H315
$\gamma$ -butyrolactone	96-48-0	202-509-5	N/A for the moment	<20	Acute Tox. 4: H302 Eye Dam. 1: H318 STOT SE 3: H336
Dialkylene glycol dialkyl ether	C.B.I.	C.B.I.	N/A for the moment	5-15	Not classified as hazardous

\*C.B.I.: Confidential Business Information

\*For the full text of the H-Statements mentioned in this Section, see Section 16.

**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:	Non-corrosive but causes irreversible eye effects.
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 immediate medical attention and special treatment needed

No information

### 5. Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media:  
Water spray, dry chemical, CO<sub>2</sub> or foam.

Unsuitable extinguishing media:  
No information

#### 5.2. Special hazards arising from the substance or mixture

Combustible liquid under Hazard Communication Standard (HCS, U.S.A).  
Flash Point: 71 deg.C

#### 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

Dike spill. Prevent liquid from entering sewers, waterways or low areas.

#### 6.3. Methods and material for containment and cleaning up

Soak up with sand or earth. 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. Keep out of reach of children and do not drink. Do not dismantle container. Make sure cartridge is dry before insertion into printer housing.

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:

EU: DNEL

components	Long term exposure	Short term exposure
Diethylene glycol diethyl ether	50.05mg/m <sup>3</sup>	-
γ-butyrolactone	130mg/m <sup>3</sup>	958mg/m <sup>3</sup>

REACH Toxicological Information (Workers - Hazard via inhalation route)

8.2. Exposure controls:

Occupational exposure control: Provide general and/or local exhaust ventilation.

Personal protective equipment:

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

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 direct contact to ink, 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 direct contact to ink, 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

Solubility: Clear Liquid  
 Odor: Slightly  
 pH: Not applicable  
 Boiling point: No data available  
 Flash point: 71 deg.C  
 Flammability(solid,gas): Not applicable  
 Explosive properties: Explosive limits: 0.3-16.0v/v% as γ-Butyrolactone  
 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: Less than 5 mPa·s at 20°C  
 Vapor density: No data available

Evaporation rate: No data available  
 Melting point: No data available

9.2. Other information: No information

## 10. Stability and reactivity

10.1. Reactivity: Stable under normal temperature  
 10.2. Chemical stability: Stable under normal temperature  
 10.3. Possibility of hazardous reactions: None  
 10.4. Conditions to avoid: High and freezing temperatures  
 10.5. Incompatible materials: Oxidizers and explosives  
 10.6. Hazardous decomposition products: No data available

## 11. Toxicological information

\*Based on toxicology data of chemically similar material

### 11.1. Information on toxicological effects

Routes of Overexposure: Eye, skin, inhalation, and oral

Acute toxicity:

Oral LD50	>2500mg/kg(Rat)*
Dermal LD50	>2000mg/kg(Rat)*
Inhalant LC50	No data available

Skin corrosion/irritation: Non-irritant (Rabbit, OECD404)\*

Serious eye damage/eye irritation: Non-irritant (Rabbit, OECD405)\*

Respiratory or skin sensitisation: Non-sensitizer (LLNA, OECD429)\*

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

12.1. Toxicity: No data available  
 12.2. Persistence and degradability: No data available  
 12.3. Bioaccumulative potential: No data available  
 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

## 13. Disposal considerations

### 13.1. Waste treatment methods:

This product is considered as a hazardous waste according to Directive 2008/98/EC.

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

##### EU Information:

Chemical Safety Assessment according to (EC)1907/2006:

This product has not carried out any Chemical Safety Assessment yet.

##### 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)

Dialkylene glycol dialkyl ether (Chemical Category N230)

##### Australia Information:

Hazardous statement: 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:

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H336 May cause drowsiness or dizziness.

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.