

## Safety Data Sheet

### 1. Product and Company Identification

Product name:

ECO-SOL MAX3, ESL5-CY  
ECO-SOL MAX3, ESL5-5CY

Manufacture:

Address: Roland DG Corporation  
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:

Address: Roland DGA Corporation  
15363 Barranca Parkway Irvine, CA 92618-2201  
U.S.A.

Phone: 949-727-2100

Fax: 949-727-2112

Emergency telephone: 949-727-2100

Use of the product:

Inkjet Printing

Date of issue:

21 December, 2015

### 2. Hazard Identification

#### 2.1 Emergency Overview:

Appearance and odor: Cyan liquid and slight odor

This product is classified as dangerous according to GHS.

Flammable liquids Category 4

GHS label elements, including precautionary statements

Pictogram None

Signal word(s) Warning

Hazard statement(s) Combustible liquid.

Precautionary statement(s)

Prevention Keep away from heat/sparks/open flames/hot surfaces. — No smoking.  
Wear protective gloves/protective clothing/eye protection/face protection.

Storage Store in a well-ventilated place.

#### 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.  
 Eye: 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

| Composition                       | CAS No.  | % By Weight | Classification HCS          |
|-----------------------------------|----------|-------------|-----------------------------|
| Dialkylene glycol dialkyl ether   | C.B.I.   | 60-70       | Not classified as hazardous |
| Propylene carbonate               | 108-32-7 | <10         | Eye Irrit. 2: H319          |
| Polyalkylene glycol dialkyl ether | C.B.I.   | 1-10        | Not classified as hazardous |

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

## 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: 65-67 deg.C

### 5.2. Extinguishing media

Suitable extinguishing media:

Dry chemical, Foam, Carbon dioxide, Dry sand, Loaded stream in spray

Unsuitable extinguishing media:

Water, High-pressure water jet

### 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. 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. 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: DNEL

| components          | Long term exposure      | Short term exposure |
|---------------------|-------------------------|---------------------|
| Propylene carbonate | 70.56 mg/m <sup>3</sup> | -                   |

REACH Toxicological Information (Workers - Hazard via inhalation route)

### 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. Recommended impervious gloves is butyl rubber glove.         |
| Skin protection:          | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves.  |
| Respiratory protection:   | In case ventilation is insufficient, wear respiratory protection. Use a half facepiece respirator (with gollges) or full face-piece respirator (without googles) 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:                                 | Cyan Liquid  |
| Odor:                                       | Slightly   |
| pH:   | Not applicable   |
| Boiling point:                              | No data available  |
| Flash point:                                | 65-67 deg.C  |
| Flammability(solid,gas):                    | Not applicable   |
| Explosive properties:                       | Explosive limits: 1.8-14.3v/v% ( of Propylene carbonate) |
| Oxidizing properties:                       | None   |
| Vapor pressure:                             | No data available  |
| Specific Gravity (g/cm <sup>3</sup> , 20°C) | 0.9-1.1  |
| Solubility:                                 | No data available  |
| Water Solubility:                           | Soluble  |
| Partition coefficient: n-octanol/water:     | No data available  |
| Viscosity:                                  | No data available  |
| Vapor density:                              | >1   |
| Evaporation rate:                           | No data available  |
| Melting point:                              | No data available  |
| Volatile organic compounds (VOC) content:   | 950 gram/liter (maximum value)                           |

### 9.2. Other information: No information

## 10. Stability and Reactivity

- 10.1. Reactivity: Stable under normal temperature  
10.2. Possibility of hazardous reactions: None  
10.3. Chemical stability: Stable under normal temperature  
10.4. Conditions to avoid: Avoid strong oxidizing agents and strong acid.  
10.5. Incompatible materials: No data available  
10.6. Hazardous decomposition products: No data available

## 11. Toxicological Information

Acute toxicity:

Propylene carbonate (of one component of this product)

|               |                   |
|---------------|-------------------|
| Oral LD50     | >29000mg/kg(Rat)  |
| Dermal LD50   | >20mL/kg(Rat)     |
| Inhalant LC50 | No data available |

Skin corrosion/irritation: No data available

Serious eye damage/eye irritation: No data available

Respiratory or skin sensitisation: No data available

Germ cell mutagenicity: No data available

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: No data available

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

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.

California Proposition 65: Not regulated

SARA TITLE III:

Section 313:

Dialkylene glycol dialkyl ether (Chemical Category N230)

Polyalkylene glycol dialkyl ether (Chemical Category N230)

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.