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**Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)**

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1. Product identifier**

**ECO-SOL MAX2, ESL4-4LK**

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

**Use of the substance/mixture:**

Inkjet Printing  
 Identified uses: Inkjet Printing  
 Restricted to professional users.  
 Uses advised against -

**1.3. Details of the supplier of the safety data sheet**

**Supplier (manufacturer/importer/only representative/downstream user/distributor):**

**Roland DG Corporation**  
 1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi  
 431-2103 Shizuoka-ken, JAPAN  
**Telephone:** +81-53-484-1224  
**Telefax:** +81-53-484-1226  
**E-mail:** info@rolanddg.be  
**Website:** www.rolanddg.be  
**E-mail (competent person):** info@rolanddg.be

**1.4. Emergency telephone number**

Supplier - Importer (EU) Roland DG Benelux N.V. Houtstraat 3, B-2260 - Westerlo, Belgium , 24h: +49 228 19240 Antipoison Center Bonn , +32 14 575 911 (Only available during office hours.)

**SECTION 2: Hazards identification**

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

**Classification according to Regulation (EC) No. 1272/2008 [CLP]:**

Hazard classes and hazard categories	Hazard statements	Classification procedure
Skin corrosion/irritation ( <i>Skin Irrit. 2</i> )	H315: Causes skin irritation.	
Serious eye damage/eye irritation ( <i>Eye Dam. 1</i> )	H318: Causes serious eye damage.	
Reproductive toxicity ( <i>Repr. 1B</i> )	H360: May damage fertility or the unborn child.	

**Classification according to Directive 67/548/EEC or 1999/45/EC:**

Irritating to skin. Risk of serious damage to eyes. May cause harm to the unborn child. Possible risk of impaired fertility.

**2.2. Label elements**

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

**Hazard pictograms:**



**GHS08**  
Health hazard



**GHS05**  
Corrosion

**Signal word:** Danger

**Hazard components for labelling:**

Tetraethylene glycol dimethyl ether, gamma-butyrolactone

hazard statements for health hazards	
H315	Causes skin irritation.
H318	Causes serious eye damage.
H360	May damage fertility or the unborn child.

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**Precautionary statements Response**

P302 + P352.1	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P362	Take off contaminated clothing.

**Labelling (67/548/EEC or 1999/45/EC)**

**Hazard pictograms:**



**T**  
Toxic

**Hazard statements**

R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R61	May cause harm to the unborn child.
R62	Possible risk of impaired fertility.

**Hazard components for labelling:**

Tetraethylene glycol dimethyl ether

**2.3. Other hazards**

**Adverse physicochemical effects:**

This material is combustible, but will not ignite readily.

**Adverse human health effects and symptoms:**

No known significant effects or critical hazards.

**Adverse environmental effects:**

No known significant effects or critical hazards.

**Other adverse effects:**

No known significant effects or critical hazards.

**SECTION 3: Composition / information on ingredients**

**3.2. Mixtures**

**Description:**

The product is a mixture of non-hazardous and the following hazardous substances

**Hazardous ingredients / Hazardous impurities / Stabilisers:**

Product identifiers	Substance name Classification according to 67/548/EEC Classification according to Regulation (EC) No. 1272/2008 [CLP]	Concentration
CAS No.: 112-36-7 EC No.: 203-963-7 REACH No.: 01-211996-9946-13-0000	<b>bis(2-ethoxyethyl) ether</b> Skin Irrit. 2 <b>Warning</b> H315 Xi; R38	40 - 50 Wt %
CAS No.: 96-48-0 EC No.: 202-509-5	<b>?-butyrolactone</b> Eye Dam. 1, STOT SE 3, Acute Tox. 4 <b>Danger</b> H302-H318-H336 Xn; R22 — Xi; R41 — R67	< 20 Wt %
CAS No.: 143-24-8 EC No.: 205-594-7	<b>bis(2-(2-methoxyethoxy)ethyl) ether</b> Repr. 1B <b>Danger</b> H360 Repr. Cat. Entw. 2; R61 — Repr. Cat. Frucht. 3; R62	10 - 20 Wt %

Full text of R-, H- and EUH-phrases: see section 16.

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information:**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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**Following inhalation:**

Provide fresh air.  
In case of irregular breathing or respiratory arrest provide artificial respiration.  
Consult physician immediately.

**In case of skin contact:**

After contact with skin, wash immediately with plenty of water and soap. Take off contaminated clothing and wash it before reuse. In case of skin irritation, consult a physician.

**After eye contact:**

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

**After ingestion:**

Do NOT induce vomiting. Consult physician immediately.

**4.2. Most important symptoms and effects, both acute and delayed**

— No data available —

**4.3. Indication of any immediate medical attention and special treatment needed**

— No data available —

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable extinguishing media:**

Water spray, Carbon dioxide (CO<sub>2</sub>), Foam, Dry extinguishing powder

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

— No data available —

**5.3. Advice for firefighters**

Wear full chemical protective clothing. Use appropriate respiratory protection.

**5.4. Additional information**

— No data available —

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**6.1.1. For non-emergency personnel**

**Personal precautions:**

See protective measures under point 7 and 8.  
Provide adequate ventilation.

**6.1.2. For emergency responders**

— No data available —

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.  
Treat the recovered material as prescribed in the section on waste disposal.

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

**For cleaning up:**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

**6.4. Reference to other sections**

Disposal: see section 13  
Personal protection equipment: see section 8

**6.5. Additional information**

— No data available —

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Protective measures**

**Advices on safe handling:**

Use only in well-ventilated areas.  
Open and handle container with care.  
All work processes must always be designed so that the following is as low as possible: Inhalation, Skin contact, Eye contact.  
When using do not eat, drink, smoke, sniff.

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**Fire prevent measures:**

Keep away from sources of ignition. - No smoking.  
 Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

**7.2. Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels:**

Keep/Store only in original container. Protect from sunlight.

**Hints on storage assembly:**

Do not store together with: Oxidising agent  
 Materials to avoid: Metal, Oxidising agent, Amines

**Storage class:** 10

**7.3. Specific end use(s)**

**Recommendation:**

Inkjet Printing

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

— No data available —

**8.2. Exposure controls**

**8.2.1. Appropriate engineering controls**

Provide adequate ventilation as well as local exhaustion at critical locations.

**8.2.2. Personal protection equipment**

**Eye/face protection:**

Eye protection: not required. In case of suitable use

**Skin protection:**

Hand protection: Hand protection: not required. In case of suitable use

**Respiratory protection:**

Respiratory protection necessary at: insufficient ventilation, insufficient exhaust. Filtering device (full mask or mouthpiece) with filter: with organic vapor cartridge

**Other protection measures:**

Body protection: not required. In case of suitable use  
 General health and safety measures: Thorough skin-cleansing after handling the product. Wash contaminated clothing prior to re-use. Avoid contact with skin, eyes and clothes.

**8.2.3. Environmental exposure controls**

Discharge into the environment must be avoided.

**8.3. Additional information**

DNEL: Workers - hazard via inhalation route  
 carbon black (CAS1333-86-4): Long term term exposure: 2 mg/m3  
 Tetraethylene glycol dimethyl ether (CAS 143-24-8): Long term term exposure: 22 mg/m3  
 gamma-butyrolactone (CAS96-48-0): Long term term exposure: 130 mg/m3; short term term exposure: 958 mg/m3

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

**Appearance**

**Physical state:** liquid

**Colour:** black

**Odour:** slightly

**Safety relevant basis data**

		at °C	Method	remark
pH	<i>not determined</i>		No data available	
Melting point/freezing point	<i>not determined</i>		No data available	
Freezing point	<i>not determined</i>			
Initial boiling point and boiling range	<i>not determined</i>		No data available	
Decomposition temperature (°C):	<i>not determined</i>			
Flash point	71 °C			
Evaporation rate	<i>not determined</i>			
Ignition temperature in °C	<i>not determined</i>			

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		at °C	Method	remark
Upper/lower flammability or explosive limits	0.3 – 16 Vol-%		as gamma-Butyrolactone	
Vapour pressure	<i>not determined</i>		No data available	
Vapour density	<i>not determined</i>			
Density	<i>not determined</i>		No data available	
Bulk density	<i>not determined</i>			
Water solubility (g/L)	<i>not determined</i>			
Partition coefficient: n-octanol/water	<i>not determined</i>		No data available	
Dynamic viscosity	<i>not determined</i>		No data available	
Kinematic viscosity	<i>not determined</i>			

## 9.2. Other information

Water solubility: soluble

Flammability (solid/gas): not applicable

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal temperature (20°C, 1013 Pa)

### 10.2. Chemical stability

Stable under normal temperature (20°C, 1013 Pa)

### 10.3. Possibility of hazardous reactions

No hazardous reactions known.

### 10.4. Conditions to avoid

High and freezing temperatures

### 10.5. Incompatible materials

Oxidizers and explosives

### 10.6. Hazardous decomposition products

No data available.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute oral toxicity:

LD50: > 2500 mg/kg (Rat)\*

#### Acute dermal toxicity:

LD50: > 2000 mg/kg (Rat)\*

#### Acute inhalation toxicity:

LC50: No data available.

#### Skin corrosion/irritation:

Irritant effect on the skin: Not an irritant. (Methode: Rabbit OECD 404)\*

#### Eye damage/irritation:

Irritant effect on the eye: slightly irritant but not relevant for classification. (Methode: Rabbit OECD 405)\*

#### Respiratory or skin sensitisation:

not sensitising. (LLNA, OECD 429)\*

#### Germ cell mutagenicity:

In vitro mutagenicity: Ames test negative.\*

#### Carcinogenicity:

The German MAK Commission reviewed Carbon Black in 1998. The overall rating of this commission is Category 3B ("possible human carcinogen") also based on the long-term inhalation studies made on rats under conditions of lung overload.

#### Reproductive toxicity:

May cause harm to the unborn child. Possible risk of impaired fertility. (Tetraethylene glycol dimethyl ether)

#### Additional information:

Specific symptoms in animal studies: There are no data available on the preparation/mixture itself.

Repeated dose toxicity (subacute, subchronic, chronic): No information available.

Other information: \* Based on toxicology data of chemically similar material.

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## SECTION 12: Ecological information

### 12.1. Toxicity

#### Aquatic toxicity:

No information available.

#### Terrestrial toxicity:

No information available.

#### Effects in sewage plants:

No information available.

### 12.2. Persistence and degradability

#### Additional information:

Further ecological information: No information available.

### 12.3. Bioaccumulative potential

#### Accumulation / Evaluation:

No information available.

### 12.4. Mobility in soil

No information available.

### 12.5. Results of PBT and vPvB assessment

No information available.

### 12.6. Other adverse effects

— No data available —

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Consult the appropriate local waste disposal expert about waste disposal.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Control report for waste code/ waste marking according to EAKV: Do not allow to enter into surface water or drains.

#### 13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

#### Waste code product:

08 03 17 *	waste printing toner containing dangerous substances
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\*: Evidence for disposal must be provided.

#### Waste code packaging:

15 01 10	packaging containing residues of or contaminated by dangerous substances
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### 13.2. Additional information

— No data available —

## SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

### 14.1. UN-No.

— No data available —

### 14.2. UN proper shipping name

— No data available —

### 14.3. Transport hazard class(es)

— No data available —

### 14.4. Packing group

— No data available —

### 14.5. Environmental hazards

— No data available —

### 14.6. Special precautions for user

— No data available —

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**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

— No data available —

**Additional information:**

No dangerous good in sense of these transport regulations.

**SECTION 15: Regulatory information**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

— No data available —

**15.2. Chemical Safety Assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**15.3. Additional information**

— No data available —

**SECTION 16: Other information**

**16.1. Indication of changes**

- 2.1. Classification of the substance or mixture
- 2.2. Label elements
- 3.2. Mixtures
- 8.1 Control parameters
- 8.2 Exposure controls
- 11.1. Information on toxicological effects

**16.2. Abbreviations and acronyms**

— No data available —

**16.3. Key literature references and sources for data**

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures  
 Commission Regulation (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008  
 Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations  
 Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances  
 Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

**16.4. Classification for mixtures and used evaluation method according to regulation (EC) 1207/2008 [CLP]**

**Classification according to Regulation (EC) No. 1272/2008 [CLP]:**

Hazard classes and hazard categories	Hazard statements	Classification procedure
Skin corrosion/irritation ( <i>Skin Irrit. 2</i> )	H315: Causes skin irritation.	
Serious eye damage/eye irritation ( <i>Eye Dam. 1</i> )	H318: Causes serious eye damage.	
Reproductive toxicity ( <i>Repr. 1B</i> )	H360: May damage fertility or the unborn child.	

**16.5. Relevant R-, H- and EUH-phrases (Number and full text)**

Hazard statements (R-phrases)	
R22	Harmful if swallowed.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R61	May cause harm to the unborn child.
R62	Possible risk of impaired fertility.
R67	Vapours may cause drowsiness and dizziness.

  

Hazard statements	
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.

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**Hazard statements**

H336	May cause drowsiness or dizziness.
H360	May damage fertility or the unborn child.

**16.6. Training advice**

— No data available —

**16.7. Additional information**

This Safety Data Sheet was drawn up by TÜV SÜD Industrie Service GmbH (see below), based on data from the supplier, who is named in section 1 and who is responsible for this document.

TÜV SÜD Industrie Service GmbH  
Department Environmental Service  
Westendstraße 199  
80686 Munich - Germany

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The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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