

## Material Safety Data Sheet

### SECTION 1 IDENTIFICATION of the MATERIAL AND SUPPLIER

**Product Name:** EcoXtreme i, AI3-BK

**Recommended Use:** Inkjet Ink

**Australian Importer/Supplier**

Roland DG Australia Pty Ltd  
Allambie Grove Business Park  
Unit 14, 25 Frenchs Forest Rd  
Frenchs Forest NSW 2086  
Phone: +612 9975 0000  
Fax: +612 9975 0001

**Overseas Manufacturer/Distributor:**

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

Emergency Number

Phone: +612 9975 0000 (9-5 pm)

### SECTION 2 HAZARDS IDENTIFICATION

#### Hazardous. Non-Dangerous Good

Classified as hazardous according to the criteria of Safe Work Australia (2004) but not a dangerous good according to the Australian Dangerous Goods Code (ADG 2008).

**Risk Phrases:**

R36/38 : Irritation to eyes and skin.

**Safety Phrases:**

S24: Avoid contact with skin.

S25: Avoid contact with eye.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

### SECTION 3 COMPOSITION/INFORMATION on INGREDIENTS

Chemical entity	CAS Number	Proportion (%)
Diethylene glycol diethyl ether	112-36-7	50-59
Polyalkyleneglycol ethylmethylether	Proprietary	18-24
Polyalkylene glycol dialkyl ether	Proprietary	6-10
Resin	Proprietary	4-6
Pigment	1333-86-4	3-5
Diethylene glycol monoethyl ether	111-90-0	2-4
Dispersant	Proprietary	2-4
Pigment Blue 15:3	147-14-8	1-2

## SECTION 4 FIRST AID MEASURES

**EYES:** In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes. If irritation persists, seek medical attention.

**SKIN:** In case of contact with skin, rinse immediately with plenty of water. If irritation persists, seek medical attention.

**INHALATION:** Remove to fresh air, keep warm and rested. Seek medical attention immediately. If breathing stops apply artificial respiration.

**INGESTION:** If swallowed, dilute with water and immediately induce vomiting. DO NOT induce vomiting or attempt to give anything by mouth to an unconscious person.

## SECTION 5 FIREFIGHTING MEASURES

### Fire:

Flash point: 71°C (Closed Cup)

Flammable limits in air: No data

### Decomposition products under fire conditions

Decomposes to carbon monoxide/dioxide.

### Fire extinguishing media:

Use water (fog), carbon dioxide, dry chemical or dry sand.

### Precautions and special protective equipment for firefighters

A self-contained breathing apparatus (SCBA) and chemical resistant clothing is recommended for indoor and outdoor fires. Do not allow fire-water to enter drains or natural waterways. Do not work in the leeward.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Emergency procedures

Evacuate area, contain and clean up spill immediately. Wash cleaned area with water and detergent.

Wear protective clothing, gloves and goggles/safety glasses. For large spills use an approved respirator with dust/particulate cartridge. Ventilate sufficiently during clean-up in case of inside spills.

### Containment of spill

Prevent spill from entering sewers, watercourses, or low areas. Collect in sand. Consult an expert on disposal of recovered material and ensure conformity with local disposal regulations.

## **SECTION 7 HANDLING and STORAGE**

### **Precautions for safe handling**

Wear appropriate personal protective equipment (see section 8).

Avoid ignition source.

Do not get in eyes, on skin, on clothing..

Do not swallow.

Avoid inhalation of product vapours or dust.

Do not eat or drink while working.

Wash thoroughly after handling (with soap and water).

### **Conditions for safe storage**

Keep containers tightly closed and keep away from moisture. Store in a cool well ventilated place away from incompatible materials (oxidizing materials). Do NOT handle or store near an open flame, heat or other sources of ignition.

## **SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Exposure Limits**

No exposure guidelines have been set for this substance or components.

All atmospheric contamination should be kept to as low a level as is practically possible.

### **Biological limit values**

BLVs have not been developed for this substance or components.

### **Engineering Controls**

Local exhaust ventilation of process equipment may be needed to control dusts or vapours. Use explosive dust handling controls.

### **Personal Protective Equipment**

*Eye protection:* Use close fitting safety goggles and/or glasses conforming to AS 1336 and AS/NZS 1337.

*Skin protection:* Use gauntlet gloves (latex or neoprene) and protective clothing conforming to AS 2161.2 and to AS 2919.

*Respiratory protection:* Use a half face-piece respirator (with goggles) or full face-piece respirator (without goggles) fitted with a dust/particulate cartridge, conforming to AS/NZS 1715 and 1716.

## SECTION 9 PHYSICAL and CHEMICAL PROPERTIES

Appearance: Black liquid  
Odour: Solvent odour  
pH: No data available  
Boiling point: 188.9°C (Diethylene glycol diethyl ether)  
Melting point: No data available  
Flash point: 71 °C  
Autoflammability: No data available  
Explosive properties: explosive limit -lower limits 0.6vol% (Diethylene glycol diethyl ether)  
-upper limits >13.0vol% (Diethylene glycol diethyl ether)

Oxidizing properties: No data available  
Vapor Pressure: 0.38mgHg@°C (Diethylene glycol diethyl ether)  
Vapor density: No data available  
Specific gravity: 0.97g/cm<sup>3</sup>@25°C  
Solubility in Water: Very soluble (Diethylene glycol diethyl ether)  
Partition coefficient: No data available  
Viscosity: No data available

## SECTION 10 STABILITY and REACTIVITY

### Stability:

Stable at normal temperature and pressure. Store in a cool, well ventilated place away from incompatible materials (see below). For batch and expiry date refer to product label.

### Conditions to avoid:

Extremely high temperature. Do not handle or store near an open flame, heat or other sources of ignition. Ink may flash, when under high temperature.

### Incompatibility:

Acids and oxidizing agents.

**Hazardous polymerization:** Will not occur.

**Hazardous decomposition:** Hazardous thermal decomposition products include carbon dioxide/monoxide.

## SECTION 11 TOXICOLOGICAL INFORMATION

**Routes of exposure:** Eye, skin, inhalation, and oral

### Acute exposure:

Eyes: May be irritating  
Skin: May cause irritation and in some people swelling and redness  
Inhalation: May result in respiratory tract irritation and anesthesia  
Ingestion: May cause an upset stomach

**Chronic exposure:** No data. Listed by IARC was listed as category 2B carcinogen (carbon black). Based on analogue data, the ingredient polyalkyleneglycol ethylmethylether may cause harm to the unborn child or risk of impaired fertility after repeated exposure.

**Mugtagenicity:** Negative

Toxicity Data:	Diethylene glycol diethyl ether:	Rat Acute oral LD50 > 4790mg/kg
	Polyalkyleneglycol ethylmethylether:	Rat Acute oral LD50 > 6500 mg/kg
		Rabbit Acute dermal LD50 >7070 mg/kg
	Diethylene glycol diethyl ether	Rabbit eye irritation: moderate irritant
	Polyalkyleneglycol ethylmethylether	Rabbit eye irritation: moderate irritant

## SECTION 12 ECOLOGICAL INFORMATION

### Ecotoxicity

No information on product. Component was of low toxicity to fish, Daphnia and algae.

### Persistence/degradability

No information on product. Biodegradation is reported to low for glycol ether component.

### Mobility

Based on the high water solubility, product is expected to be mobile or enter groundwater.

### Environmental fate

Expected to partition mainly to water and soil,.

### Bioaccumulation potential

No information on product. Based on low log Pow and BCF for components, product is expected to have a low potential for bioaccumulation and bioconcentration.

## SECTION 13 DISPOSAL CONSIDERATIONS

### Disposal Methods

Waste disposal must be in accordance with appropriate State/Territory or national waste management regulations. Wastes should be landfilled or incinerated.

### Special Precautions

Do not dispose of to sewer.

## SECTION 14 TRANSPORT INFORMATION

**Australian Dangerous Goods Code:** Not Regulated

**DOT:** Not regulated

**IMO/IMDG:** Not regulated

## SECTION 15 AUSTRALIAN REGULATORY INFORMATION

**Classification:** This material is classified as hazardous according to the criteria of Safe Work Australia (2004) but not as a Dangerous Good (ADG Code 2008).

**Poison Schedule:** Not listed.

**Australian Inventory of Chemical Substances (AICS):** This product contains a component which is not listed on AICS.

## SECTION 16 OTHER INFORMATION

Date of revision: 30 March, 2010

This MSDS summarises our best knowledge, at the date of issue, of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Since Roland DG Australia Pty Ltd. cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Roland DG Australia Pty Ltd.

## REFERENCES

ADG (2008). Australian Dangerous Goods (7<sup>th</sup> Edn).

Safe Work Australia (2004). Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]. National Occupational Health and Safety Commission, Canberra, AusInfo.

## Material Safety Data Sheet

### SECTION 1 IDENTIFICATION of the MATERIAL AND SUPPLIER

**Product Name:** EcoXtreme i, AI3-CY

**Recommended Use:** Inkjet Ink

**Australian Importer/Supplier**

Roland DG Australia Pty Ltd  
Allambie Grove Business Park  
Unit 14, 25 Frenchs Forest Rd  
Frenchs Forest NSW 2086  
Phone: +612 9975 0000  
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**Risk Phrases:**

R36/38 : Irritation to eyes and skin.

**Safety Phrases:**

S24: Avoid contact with skin.

S25: Avoid contact with eye.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

### SECTION 3 COMPOSITION/INFORMATION on INGREDIENTS

Chemical entity	CAS Number	Proportion (%)
Diethylene glycol diethyl ether	112-36-7	52-60
Polyalkyleneglycol ethylmethylether	Proprietary	19-23
Polyalkylene glycol dialkyl ether	Proprietary	6-10
Resin	Proprietary	3-7
Pigment	147-14-8	3-5
Dispersant	Proprietary	2-4
Diethylene glycol monoethyl ether	Proprietary	2-4

## SECTION 4 FIRST AID MEASURES

**EYES:** In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes. If irritation persists, seek medical attention.

**SKIN:** In case of contact with skin, rinse immediately with plenty of water. If irritation persists, seek medical attention.

**INHALATION:** Remove to fresh air, keep warm and rested. Seek medical attention immediately. If breathing stops apply artificial respiration.

**INGESTION:** If swallowed, dilute with water and immediately induce vomiting. DO NOT induce vomiting or attempt to give anything by mouth to an unconscious person.

## SECTION 5 FIREFIGHTING MEASURES

### Fire:

Flash point: 71°C (Closed Cup)

Flammable limits in air: No data

### Decomposition products under fire conditions

Decomposes to carbon monoxide/dioxide.

### Fire extinguishing media:

Use water (fog), carbon dioxide, dry chemical or dry sand.

### Precautions and special protective equipment for firefighters

A self-contained breathing apparatus (SCBA) and chemical resistant clothing is recommended for indoor and outdoor fires.

Do not allow fire-water to enter drains or natural waterways. Do not work in the leeward.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Emergency procedures

Evacuate area, contain and clean up spill immediately. Wash cleaned area with water and detergent.

Wear protective clothing, gloves and goggles/safety glasses. For large spills use an approved respirator with dust/particulate cartridge. Ventilate sufficiently during clean-up in case of inside spills.

### Containment of spill

Prevent spill from entering sewers, watercourses, or low areas. Collect in sand. Consult an expert on disposal of recovered material and ensure conformity with local disposal regulations.

## **SECTION 7 HANDLING and STORAGE**

### **Precautions for safe handling**

Wear appropriate personal protective equipment (see section 8).

Avoid ignition source.

Do not get in eyes, on skin, on clothing..

Do not swallow.

Avoid inhalation of product vapours or dust.

Do not eat or drink while working.

Wash thoroughly after handling (with soap and water).

### **Conditions for safe storage**

Keep containers tightly closed and keep away from moisture. Store in a cool well ventilated place away from incompatible materials (oxidizing materials). Do NOT handle or store near an open flame, heat or other sources of ignition.

## **SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Exposure Limits**

No exposure guidelines have been set for this substance or components.

All atmospheric contamination should be kept to as low a level as is practically possible.

### **Biological limit values**

BLVs have not been developed for this substance or components.

### **Engineering Controls**

Local exhaust ventilation of process equipment may be needed to control dusts or vapours. Use explosive dust handling controls.

### **Personal Protective Equipment**

*Eye protection:* Use close fitting safety goggles and/or glasses conforming to AS 1336 and AS/NZS 1337.

*Skin protection:* Use gauntlet gloves (latex or neoprene) and protective clothing conforming to AS 2161.2 and to AS 2919.

*Respiratory protection:* Use a half face-piece respirator (with goggles) or full face-piece respirator (without goggles) fitted with a dust/particulate cartridge, conforming to AS/NZS 1715 and 1716.

## SECTION 9 PHYSICAL and CHEMICAL PROPERTIES

Appearance: Blue liquid  
Odour: Solvent odour  
pH: No data available  
Boiling point: 188.9°C (Diethylene glycol diethyl ether)  
Melting point: No data available  
Flash point: 71 °C  
Autoflammability: No data available  
Explosive properties: explosive limit -lower limits 0.6vol% (Diethylene glycol diethyl ether)  
-upper limits >13.0vol% (Diethylene glycol diethyl ether)

Oxidizing properties: No data available  
Vapor Pressure: 0.38mgHg@°C (Diethylene glycol diethyl ether)  
Vapor density: No data available  
Specific gravity: 0.96g/cm<sup>3</sup>@°C  
Solubility in Water: Very soluble (Diethylene glycol diethyl ether)  
Partition coefficient: No data available  
Viscosity: No data available

## SECTION 10 STABILITY and REACTIVITY

### Stability:

Stable at normal temperature and pressure. Store in a cool, well ventilated place away from incompatible materials (see below). For batch and expiry date refer to product label.

### Conditions to avoid:

Extremely high temperature. Do not handle or store near an open flame, heat or other sources of ignition. Ink may flash, when under high temperature.

### Incompatibility:

Acids and oxidizing agents.

**Hazardous polymerization:** Will not occur.

**Hazardous decomposition:** Hazardous thermal decomposition products include carbon dioxide/monoxide.

## SECTION 11 TOXICOLOGICAL INFORMATION

**Routes of exposure:** Eye, skin, inhalation, and oral

### Acute exposure:

Eyes: May be irritating  
Skin: May cause irritation and in some people swelling and redness  
Inhalation: May result in respiratory tract irritation and anesthesia  
Ingestion: May cause an upset stomach

**Chronic exposure:** No data. Based on analogue data, the ingredient polyalkyleneglycol ethylmethylether may cause harm to the unborn child or risk of impaired fertility after repeated exposure.

**Mugtagenicity:** Negative

Diethylene glycol diethyl ether:	Rat Acute oral LD50 > 4790mg/kg
Polyalkyleneglycol ethylmethylether:	Rat Acute oral LD50 > 6500 mg/kg
	Rabbit Acute dermal LD50 >7070 mg/kg
Diethylene glycol diethyl ether	Rabbit eye irritation: moderate irritant
Polyalkyleneglycol ethylmethylether	Rabbit eye irritation: moderate irritant

## SECTION 12 ECOLOGICAL INFORMATION

### Ecotoxicity

No information on product. Component was of low toxicity to fish, Daphnia and algae.

### Persistence/degradability

No information on product. Biodegradation is reported to low for glycol ether component.

### Mobility

Based on the high water solubility, product is expected to be mobile or enter groundwater.

### Environmental fate

Expected to partition mainly to water and soil.

### Bioaccumulation potential

No information on product. Based on low log Pow and BCF for components, product is expected to have a low potential for bioaccumulation and bioconcentration.

## SECTION 13 DISPOSAL CONSIDERATIONS

### Disposal Methods

Waste disposal must be in accordance with appropriate State/Territory or national waste management regulations. Wastes should be landfilled or incinerated.

### Special Precautions

Do not dispose of to sewer.

## SECTION 14 TRANSPORT INFORMATION

**Australian Dangerous Goods Code:** Not Regulated

**DOT:** Not regulated

**IMO/IMDG:** Not regulated

## SECTION 15 AUSTRALIAN REGULATORY INFORMATION

**Classification:** This material is classified as hazardous according to the criteria of Safe Work Australia (2004) but not as a Dangerous Good (ADG Code 2008).

**Poison Schedule:** Not listed.

**Australian Inventory of Chemical Substances (AICS):** This product contains a component which is not listed on AICS.

## SECTION 16 OTHER INFORMATION

Date of revision: 30 March, 2010

This MSDS summarises our best knowledge, at the date of issue, of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Since Roland DG Australia Pty Ltd. cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Roland DG Australia Pty Ltd.

## REFERENCES

ADG (2008). Australian Dangerous Goods (7<sup>th</sup> Edn).

Safe Work Australia (2004). Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]. National Occupational Health and Safety Commission, Canberra, AusInfo.

## Material Safety Data Sheet

### SECTION 1 IDENTIFICATION of the MATERIAL AND SUPPLIER

**Product Name:** EcoXtreme i, AI3-LC

**Recommended Use:** Inkjet Ink

**Australian Importer/Supplier**

Roland DG Australia Pty Ltd  
Allambie Grove Business Park  
Unit 14, 25 Frenchs Forest Rd  
Frenchs Forest NSW 2086  
Phone: +612 9975 0000  
Fax: +612 9975 0001

**Overseas Manufacturer/Distributor:**

Roland DG Corporation  
1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi,  
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Emergency Number

Phone: +612 9975 0000 (9-5 pm)

### SECTION 2 HAZARDS IDENTIFICATION

#### **Hazardous. Non-Dangerous Good**

Classified as hazardous according to the criteria of Safe Work Australia (2004) but not a dangerous good according to the Australian Dangerous Goods Code (ADG 2008).

**Risk Phrases:**

R36/38 : Irritation to eyes and skin.

**Safety Phrases:**

S24: Avoid contact with skin.

S25: Avoid contact with eye.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

### SECTION 3 COMPOSITION/INFORMATION on INGREDIENTS

<b>Chemical entity</b>	<b>CAS Number</b>	<b>Proportion (%)</b>
Diethylene glycol diethyl ether	112-36-7	55-65
Polyalkyleneglycol ethylmethylether	Proprietary	18-25
Polyalkylene glycol dialkyl ether	Proprietary	6-10
Resin	Proprietary	5-8
Diethylene glycol monoethyl ether	Proprietary	2.5-4
Dispersant	Proprietary	0.5-1.5
Pigment	147-14-8	0.5-1

## SECTION 4 FIRST AID MEASURES

**EYES:** In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes. If irritation persists, seek medical attention.

**SKIN:** In case of contact with skin, rinse immediately with plenty of water. If irritation persists, seek medical attention.

**INHALATION:** Remove to fresh air, keep warm and rested. Seek medical attention immediately. If breathing stops apply artificial respiration.

**INGESTION:** If swallowed, dilute with water and immediately induce vomiting. DO NOT induce vomiting or attempt to give anything by mouth to an unconscious person.

## SECTION 5 FIREFIGHTING MEASURES

### Fire:

Flash point: 71°C (Closed Cup)

Flammable limits in air: No data

### Decomposition products under fire conditions

Decomposes to carbon monoxide/dioxide.

### Fire extinguishing media:

Use water (fog), carbon dioxide, dry chemical or dry sand.

### Precautions and special protective equipment for firefighters

A self-contained breathing apparatus (SCBA) and chemical resistant clothing is recommended for indoor and outdoor fires.

Do not allow fire-water to enter drains or natural waterways. Do not work in the leeward.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Emergency procedures

Evacuate area, contain and clean up spill immediately. Wash cleaned area with water and detergent.

Wear protective clothing, gloves and goggles/safety glasses. For large spills use an approved respirator with dust/particulate cartridge. Ventilate sufficiently during clean-up in case of inside spills.

### Containment of spill

Prevent spill from entering sewers, watercourses, or low areas. Collect in sand. Consult an expert on disposal of recovered material and ensure conformity with local disposal regulations.

## **SECTION 7 HANDLING and STORAGE**

### **Precautions for safe handling**

Wear appropriate personal protective equipment (see section 8).

Avoid ignition source.

Do not get in eyes, on skin, on clothing..

Do not swallow.

Avoid inhalation of product vapours or dust.

Do not eat or drink while working.

Wash thoroughly after handling (with soap and water).

### **Conditions for safe storage**

Keep containers tightly closed and keep away from moisture. Store in a cool well ventilated place away from incompatible materials (oxidizing materials). Do NOT handle or store near an open flame, heat or other sources of ignition.

## **SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Exposure Limits**

No exposure guidelines have been set for this substance or components.

All atmospheric contamination should be kept to as low a level as is practically possible.

### **Biological limit values**

BLVs have not been developed for this substance or components.

### **Engineering Controls**

Local exhaust ventilation of process equipment may be needed to control dusts or vapours. Use explosive dust handling controls.

### **Personal Protective Equipment**

*Eye protection:* Use close fitting safety goggles and/or glasses conforming to AS 1336 and AS/NZS 1337.

*Skin protection:* Use gauntlet gloves (latex or neoprene) and protective clothing conforming to AS 2161.2 and to AS 2919.

*Respiratory protection:* Use a half face-piece respirator (with goggles) or full face-piece respirator (without goggles) fitted with a dust/particulate cartridge, conforming to AS/NZS 1715 and 1716.

## SECTION 9 PHYSICAL and CHEMICAL PROPERTIES

Appearance: Light Blue liquid  
Odour: Solvent odour  
pH: No data available  
Boiling point: 188.9°C (Diethylene glycol diethyl ether)  
Melting point: No data available  
Flash point: 71 °C  
Autoflammability: No data available  
Explosive properties: explosive limit -lower limits 0.6vol% (Diethylene glycol diethyl ether)  
-upper limits >13.0vol% (Diethylene glycol diethyl ether)

Oxidizing properties: No data available  
Vapor Pressure: 0.38mgHg@°C (Diethylene glycol diethyl ether)  
Vapor density: No data available  
Specific gravity: 0.94g/cm<sup>3</sup>@°C  
Solubility in Water: Very soluble (Diethylene glycol diethyl ether)  
Partition coefficient: No data available  
Viscosity: No data available

## SECTION 10 STABILITY and REACTIVITY

### Stability:

Stable at normal temperature and pressure. Store in a cool, well ventilated place away from incompatible materials (see below). For batch and expiry date refer to product label.

### Conditions to avoid:

Extremely high temperature. Do not handle or store near an open flame, heat or other sources of ignition. Ink may flash, when under high temperature.

### Incompatibility:

Acids and oxidizing agents.

**Hazardous polymerization:** Will not occur.

**Hazardous decomposition:** Hazardous thermal decomposition products include carbon dioxide/monoxide.

## SECTION 11 TOXICOLOGICAL INFORMATION

**Routes of exposure:** Eye, skin, inhalation, and oral

### Acute exposure:

Eyes: May be irritating  
Skin: May cause irritation and in some people swelling and redness  
Inhalation: May result in respiratory tract irritation and anesthesia  
Ingestion: May cause an upset stomach

**Chronic exposure:** No data. Based on analogue data, the ingredient polyalkyleneglycol ethylmethylether may cause harm to the unborn child or risk of impaired fertility after repeated exposure.

**Mugtagenicity:** Negative

Toxicity Data:	Diethylene glycol diethyl ether:	Rat Acute oral LD50 > 4790mg/kg
	Polyalkyleneglycol ethylmethylether:	Rat Acute oral LD50 > 6500 mg/kg
		Rabbit Acute dermal LD50 >7070 mg/kg
	Diethylene glycol diethyl ether	Rabbit eye irritation: moderate irritant
	Polyalkyleneglycol ethylmethylether	Rabbit eye irritation: moderate irritant

## SECTION 12 ECOLOGICAL INFORMATION

### Ecotoxicity

No information on product. Component was of low toxicity to fish, Daphnia and algae.

### Persistence/degradability

No information on product. Biodegradation is reported to low for glycol ether component.

### Mobility

Based on the high water solubility, product is expected to be mobile or enter groundwater.

### Environmental fate

Expected to partition mainly to water and soil.

### Bioaccumulation potential

No information on product. Based on low log Pow and BCF for components, product is expected to have a low potential for bioaccumulation and bioconcentration.

## SECTION 13 DISPOSAL CONSIDERATIONS

### Disposal Methods

Waste disposal must be in accordance with appropriate State/Territory or national waste management regulations. Wastes should be landfilled or incinerated.

### Special Precautions

Do not dispose of to sewer.

## SECTION 14 TRANSPORT INFORMATION

**Australian Dangerous Goods Code:** Not Regulated

**DOT:** Not regulated

**IMO/IMDG:** Not regulated

## SECTION 15 AUSTRALIAN REGULATORY INFORMATION

**Classification:** This material is classified as hazardous according to the criteria of Safe Work Australia (2004) but not as a Dangerous Good (ADG Code 2008).

**Poison Schedule:** Not listed.

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## SECTION 16 OTHER INFORMATION

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## Material Safety Data Sheet

### SECTION 1 IDENTIFICATION of the MATERIAL AND SUPPLIER

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**Recommended Use:** Inkjet Ink

**Australian Importer/Supplier**

Roland DG Australia Pty Ltd  
Allambie Grove Business Park  
Unit 14, 25 Frenchs Forest Rd  
Frenchs Forest NSW 2086  
Phone: +612 9975 0000  
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R36/38 : Irritation to eyes and skin.

**Safety Phrases:**

S24: Avoid contact with skin.

S25: Avoid contact with eye.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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<b>Chemical entity</b>	<b>CAS Number</b>	<b>Proportion (%)</b>
Diethylene glycol diethyl ether	112-36-7	53-62
Polyalkyleneglycol ethylmethylether	Proprietary	20-25
Polyalkylene glycol dialkyl ether	Proprietary	7-11
Resin	Proprietary	5-8
Diethylene glycol monoethyl ether	Proprietary	1-4
Pigment	980-26-7	0.5-1.5
Dispersant	Proprietary	0.5-1.5

## SECTION 4 FIRST AID MEASURES

**EYES:** In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes. If irritation persists, seek medical attention.

**SKIN:** In case of contact with skin, rinse immediately with plenty of water. If irritation persists, seek medical attention.

**INHALATION:** Remove to fresh air, keep warm and rested. Seek medical attention immediately. If breathing stops apply artificial respiration.

**INGESTION:** If swallowed, dilute with water and immediately induce vomiting. DO NOT induce vomiting or attempt to give anything by mouth to an unconscious person.

## SECTION 5 FIREFIGHTING MEASURES

### Fire:

Flash point: 71°C (Closed Cup)

Flammable limits in air: No data

### Decomposition products under fire conditions

Decomposes to carbon monoxide/dioxide.

### Fire extinguishing media:

Use water (fog), carbon dioxide, dry chemical or dry sand.

### Precautions and special protective equipment for firefighters

A self-contained breathing apparatus (SCBA) and chemical resistant clothing is recommended for indoor and outdoor fires.

Do not allow fire-water to enter drains or natural waterways. Do not work in the leeward.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Emergency procedures

Evacuate area, contain and clean up spill immediately. Wash cleaned area with water and detergent.

Wear protective clothing, gloves and goggles/safety glasses. For large spills use an approved respirator with dust/particulate cartridge. Ventilate sufficiently during clean-up in case of inside spills.

### Containment of spill

Prevent spill from entering sewers, watercourses, or low areas. Collect in sand. Consult an expert on disposal of recovered material and ensure conformity with local disposal regulations.

## **SECTION 7 HANDLING and STORAGE**

### **Precautions for safe handling**

Wear appropriate personal protective equipment (see section 8).

Avoid ignition source.

Do not get in eyes, on skin, on clothing..

Do not swallow.

Avoid inhalation of product vapours or dust.

Do not eat or drink while working.

Wash thoroughly after handling (with soap and water).

### **Conditions for safe storage**

Keep containers tightly closed and keep away from moisture. Store in a cool well ventilated place away from incompatible materials (oxidizing materials). Do NOT handle or store near an open flame, heat or other sources of ignition.

## **SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Exposure Limits**

No exposure guidelines have been set for this substance or components.

All atmospheric contamination should be kept to as low a level as is practically possible.

### **Biological limit values**

BLVs have not been developed for this substance or components.

### **Engineering Controls**

Local exhaust ventilation of process equipment may be needed to control dusts or vapours. Use explosive dust handling controls.

### **Personal Protective Equipment**

*Eye protection:* Use close fitting safety goggles and/or glasses conforming to AS 1336 and AS/NZS 1337.

*Skin protection:* Use gauntlet gloves (latex or neoprene) and protective clothing conforming to AS 2161.2 and to AS 2919.

*Respiratory protection:* Use a half face-piece respirator (with goggles) or full face-piece respirator (without goggles) fitted with a dust/particulate cartridge, conforming to AS/NZS 1715 and 1716.

## SECTION 9 PHYSICAL and CHEMICAL PROPERTIES

Appearance: Light Magenta liquid  
Odour: Solvent odour  
pH: No data available  
Boiling point: 188.9°C (Diethylene glycol diethyl ether)  
Melting point: No data available  
Flash point: 71 °C  
Autoflammability: No data available  
Explosive properties: explosive limit -lower limits 0.6vol% (Diethylene glycol diethyl ether)  
-upper limits >13.0vol% (Diethylene glycol diethyl ether)

Oxidizing properties: No data available  
Vapor Pressure: 0.38mgHg@°C (Diethylene glycol diethyl ether)  
Vapor density: No data available  
Specific gravity: 0.95g/cm<sup>3</sup>@°C  
Solubility in Water: Very soluble (Diethylene glycol diethyl ether)  
Partition coefficient: No data available  
Viscosity: No data available

## SECTION 10 STABILITY and REACTIVITY

### Stability:

Stable at normal temperature and pressure. Store in a cool, well ventilated place away from incompatible materials (see below). For batch and expiry date refer to product label.

### Conditions to avoid:

Extremely high temperature. Do not handle or store near an open flame, heat or other sources of ignition. Ink may flash, when under high temperature.

### Incompatibility:

Acids and oxidizing agents.

**Hazardous polymerization:** Will not occur.

**Hazardous decomposition:** Hazardous thermal decomposition products include carbon dioxide/monoxide.

## SECTION 11 TOXICOLOGICAL INFORMATION

**Routes of exposure:** Eye, skin, inhalation, and oral

### Acute exposure:

Eyes: May be irritating  
Skin: May cause irritation and in some people swelling and redness  
Inhalation: May result in respiratory tract irritation and anesthesia  
Ingestion: May cause an upset stomach

**Chronic exposure:** No data. Based on analogue data, the ingredient polyalkyleneglycol ethylmethylether may cause harm to the unborn child or risk of impaired fertility after repeated exposure.

**Mugtagenicity:** Negative

Toxicity Data:	Diethylene glycol diethyl ether:	Rat Acute oral LD50 > 4790mg/kg
	Polyalkyleneglycol ethylmethylether:	Rat Acute oral LD50 > 6500 mg/kg Rabbit Acute dermal LD50 >7070 mg/kg
	Diethylene glycol diethyl ether	Rabbit eye irritation: moderate irritant
	Polyalkyleneglycol ethylmethylether	Rabbit eye irritation: moderate irritant

## SECTION 12 ECOLOGICAL INFORMATION

### Ecotoxicity

No information on product. Component was of low toxicity to fish, Daphnia and algae.

### Persistence/degradability

No information on product. Biodegradation is reported to low for glycol ether component.

### Mobility

Based on the high water solubility, product is expected to be mobile or enter groundwater.

### Environmental fate

Expected to partition mainly to water and soil.

### Bioaccumulation potential

No information on product. Based on low log Pow and BCF for components, product is expected to have a low potential for bioaccumulation and bioconcentration.

## SECTION 13 DISPOSAL CONSIDERATIONS

### Disposal Methods

Waste disposal must be in accordance with appropriate State/Territory or national waste management regulations. Wastes should be landfilled or incinerated.

### Special Precautions

Do not dispose of to sewer.

## SECTION 14 TRANSPORT INFORMATION

**Australian Dangerous Goods Code:** Not Regulated

**DOT:** Not regulated

**IMO/IMDG:** Not regulated

## SECTION 15 AUSTRALIAN REGULATORY INFORMATION

**Classification:** This material is classified as hazardous according to the criteria of Safe Work Australia (2004) but not as a Dangerous Good (ADG Code 2008).

**Poison Schedule:** Not listed.

**Australian Inventory of Chemical Substances (AICS):** This product contains a component which is not listed on AICS.

## SECTION 16 OTHER INFORMATION

Date of revision: 30 March, 2010

This MSDS summarises our best knowledge, at the date of issue, of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Since Roland DG Australia Pty Ltd. cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Roland DG Australia Pty Ltd.

## REFERENCES

ADG (2008). Australian Dangerous Goods (7<sup>th</sup> Edn).

Safe Work Australia (2004). Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]. National Occupational Health and Safety Commission, Canberra, AusInfo.

## Material Safety Data Sheet

### SECTION 1 IDENTIFICATION of the MATERIAL AND SUPPLIER

**Product Name:** EcoXtreme i, AI3-MG

**Recommended Use:** Inkjet Ink

**Australian Importer/Supplier**

Roland DG Australia Pty Ltd  
Allambie Grove Business Park  
Unit 14, 25 Frenchs Forest Rd  
Frenchs Forest NSW 2086  
Phone: +612 9975 0000  
Fax: +612 9975 0001

**Overseas Manufacturer/Distributor:**

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

Emergency Number

Phone: +612 9975 0000 (9-5 pm)

### SECTION 2 HAZARDS IDENTIFICATION

#### Hazardous. Non-Dangerous Good

Classified as hazardous according to the criteria of Safe Work Australia (2004) but not a dangerous good according to the Australian Dangerous Goods Code (ADG 2008).

**Risk Phrases:**

R36/38 : Irritation to eyes and skin.

**Safety Phrases:**

S24: Avoid contact with skin.

S25: Avoid contact with eye.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

### SECTION 3 COMPOSITION/INFORMATION on INGREDIENTS

Chemical entity	CAS Number	Proportion (%)
Diethylene glycol diethyl ether	112-36-7	48-56
Polyalkyleneglycol ethylmethylether	Proprietary	20-25
Polyalkylene glycol dialkyl ether	Proprietary	8-11
Pigment	980-26-7	4-7
Resin	Proprietary	3-5
Dispersant	Proprietary	3-5
Diethylene glycol monoethyl ether	Proprietary	2-3

## SECTION 4 FIRST AID MEASURES

**EYES:** In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes. If irritation persists, seek medical attention.

**SKIN:** In case of contact with skin, rinse immediately with plenty of water. If irritation persists, seek medical attention.

**INHALATION:** Remove to fresh air, keep warm and rested. Seek medical attention immediately. If breathing stops apply artificial respiration.

**INGESTION:** If swallowed, dilute with water and immediately induce vomiting. DO NOT induce vomiting or attempt to give anything by mouth to an unconscious person.

## SECTION 5 FIREFIGHTING MEASURES

### Fire:

Flash point: 71°C (Closed Cup)

Flammable limits in air: No data

### Decomposition products under fire conditions

Decomposes to carbon monoxide/dioxide.

### Fire extinguishing media:

Use water (fog), carbon dioxide, dry chemical or dry sand.

### Precautions and special protective equipment for firefighters

A self-contained breathing apparatus (SCBA) and chemical resistant clothing is recommended for indoor and outdoor fires.

Do not allow fire-water to enter drains or natural waterways. Do not work in the leeward.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Emergency procedures

Evacuate area, contain and clean up spill immediately. Wash cleaned area with water and detergent.

Wear protective clothing, gloves and goggles/safety glasses. For large spills use an approved respirator with dust/particulate cartridge. Ventilate sufficiently during clean-up in case of inside spills.

### Containment of spill

Prevent spill from entering sewers, watercourses, or low areas. Collect in sand. Consult an expert on disposal of recovered material and ensure conformity with local disposal regulations.

## SECTION 7 HANDLING and STORAGE

### Precautions for safe handling

Wear appropriate personal protective equipment (see section 8).

Avoid ignition source.

Do not get in eyes, on skin, on clothing..

Do not swallow.

Avoid inhalation of product vapours or dust.

Do not eat or drink while working.

Wash thoroughly after handling (with soap and water).

### Conditions for safe storage

Keep containers tightly closed and keep away from moisture. Store in a cool well ventilated place away from incompatible materials (oxidizing materials). Do NOT handle or store near an open flame, heat or other sources of ignition.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Limits

No exposure guidelines have been set for this substance or components.

All atmospheric contamination should be kept to as low a level as is practically possible.

### Biological limit values

BLVs have not been developed for this substance or components.

### Engineering Controls

Local exhaust ventilation of process equipment may be needed to control dusts or vapours. Use explosive dust handling controls.

### Personal Protective Equipment

*Eye protection:* Use close fitting safety goggles and/or glasses conforming to AS 1336 and AS/NZS 1337.

*Skin protection:* Use gauntlet gloves (latex or neoprene) and protective clothing conforming to AS 2161.2 and to AS 2919.

*Respiratory protection:* Use a half face-piece respirator (with goggles) or full face-piece respirator (without goggles) fitted with a dust/particulate cartridge, conforming to AS/NZS 1715 and 1716.

## SECTION 9 PHYSICAL and CHEMICAL PROPERTIES

Appearance: Magenta liquid  
Odour: Solvent odour  
pH: No data available  
Boiling point: 188.9°C (Diethylene glycol diethyl ether)  
Melting point: No data available  
Flash point: 71 °C  
Autoflammability: No data available  
Explosive properties: explosive limit -lower limits 0.6vol% (Diethylene glycol diethyl ether)  
-upper limits >13.0vol% (Diethylene glycol diethyl ether)

Oxidizing properties: No data available  
Vapor Pressure: 0.38mgHg@°C (Diethylene glycol diethyl ether)  
Vapor density: No data available  
Specific gravity: 0.96g/cm<sup>3</sup>@°C  
Solubility in Water: Very soluble (Diethylene glycol diethyl ether)  
Partition coefficient: No data available  
Viscosity: No data available

## SECTION 10 STABILITY and REACTIVITY

### Stability:

Stable at normal temperature and pressure. Store in a cool, well ventilated place away from incompatible materials (see below). For batch and expiry date refer to product label.

### Conditions to avoid:

Extremely high temperature. Do not handle or store near an open flame, heat or other sources of ignition. Ink may flash, when under high temperature.

### Incompatibility:

Acids and oxidizing agents.

**Hazardous polymerization:** Will not occur.

**Hazardous decomposition:** Hazardous thermal decomposition products include carbon dioxide/monoxide.

## SECTION 11 TOXICOLOGICAL INFORMATION

**Routes of exposure:** Eye, skin, inhalation, and oral

### Acute exposure:

Eyes: May be irritating  
Skin: May cause irritation and in some people swelling and redness  
Inhalation: May result in respiratory tract irritation and anesthesia  
Ingestion: May cause an upset stomach

**Chronic exposure:** No data. Based on analogue data, the ingredient polyalkyleneglycol ethylmethylether may cause harm to the unborn child or risk of impaired fertility after repeated exposure.

**Mugtagenicity:** Negative

Toxicity Data:	Diethylene glycol diethyl ether:	Rat Acute oral LD50 > 4790mg/kg
	Polyalkyleneglycol ethylmethylether:	Rat Acute oral LD50 > 6500 mg/kg
		Rabbit Acute dermal LD50 >7070 mg/kg
	Diethylene glycol diethyl ether	Rabbit eye irritation: moderate irritant
	Polyalkyleneglycol ethylmethylether	Rabbit eye irritation: moderate irritant

## SECTION 12 ECOLOGICAL INFORMATION

### Ecotoxicity

No information on product. Component was of low toxicity to fish, Daphnia and algae.

### Persistence/degradability

No information on product. Biodegradation is reported to low for glycol ether component.

### Mobility

Based on the high water solubility, product is expected to be mobile or enter groundwater.

### Environmental fate

Expected to partition mainly to water and soil.

### Bioaccumulation potential

No information on product. Based on low log Pow and BCF for components, product is expected to have a low potential for bioaccumulation and bioconcentration.

## SECTION 13 DISPOSAL CONSIDERATIONS

### Disposal Methods

Waste disposal must be in accordance with appropriate State/Territory or national waste management regulations. Wastes should be landfilled or incinerated.

### Special Precautions

Do not dispose of to sewer.

## SECTION 14 TRANSPORT INFORMATION

**Australian Dangerous Goods Code:** Not Regulated

**DOT:** Not regulated

**IMO/IMDG:** Not regulated

## SECTION 15 AUSTRALIAN REGULATORY INFORMATION

**Classification:** This material is classified as hazardous according to the criteria of Safe Work Australia (2004) but not as a Dangerous Good (ADG Code 2008).

**Poison Schedule:** Not listed.

**Australian Inventory of Chemical Substances (AICS):** This product contains a component which is not listed on AICS.

## SECTION 16 OTHER INFORMATION

Date of revision: 30 March, 2010

This MSDS summarises our best knowledge, at the date of issue, of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Since Roland DG Australia Pty Ltd. cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Roland DG Australia Pty Ltd.

## REFERENCES

ADG (2008). Australian Dangerous Goods (7<sup>th</sup> Edn).

Safe Work Australia (2004). Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]. National Occupational Health and Safety Commission, Canberra, AusInfo.

## Material Safety Data Sheet

### SECTION 1 IDENTIFICATION of the MATERIAL AND SUPPLIER

**Product Name:** EcoXtreme i, AI3-YE

**Recommended Use:** Inkjet Ink

**Australian Importer/Supplier**

Roland DG Australia Pty Ltd  
Allambie Grove Business Park  
Unit 14, 25 Frenchs Forest Rd  
Frenchs Forest NSW 2086  
Phone: +612 9975 0000  
Fax: +612 9975 0001

**Overseas Manufacturer/Distributor:**

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

Emergency Number

Phone: +612 9975 0000 (9-5 pm)

### SECTION 2 HAZARDS IDENTIFICATION

#### **Hazardous. Non-Dangerous Good**

Classified as hazardous according to the criteria of Safe Work Australia (2004) but not a dangerous good according to the Australian Dangerous Goods Code (ADG 2008).

**Risk Phrases:**

R36/38 : Irritation to eyes and skin.

**Safety Phrases:**

S24: Avoid contact with skin.

S25: Avoid contact with eye.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

### SECTION 3 COMPOSITION/INFORMATION on INGREDIENTS

<b>Chemical entity</b>	<b>CAS Number</b>	<b>Proportion (%)</b>
Diethylene glycol diethyl ether	112-36-7	48-56
Polyalkyleneglycol ethylmethylether	Proprietary	20-25
Polyalkylene glycol dialkyl ether	Proprietary	8-11
Pigment	68511-62-6	4-7
Resin	Proprietary	3-5
Dispersant	Proprietary	3-5
Diethylene glycol monoethyl ether	Proprietary	2-4

## SECTION 4 FIRST AID MEASURES

**EYES:** In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes. If irritation persists, seek medical attention.

**SKIN:** In case of contact with skin, rinse immediately with plenty of water. If irritation persists, seek medical attention.

**INHALATION:** Remove to fresh air, keep warm and rested. Seek medical attention immediately. If breathing stops apply artificial respiration.

**INGESTION:** If swallowed, dilute with water and immediately induce vomiting. DO NOT induce vomiting or attempt to give anything by mouth to an unconscious person.

## SECTION 5 FIREFIGHTING MEASURES

### Fire:

Flash point: 71°C (Closed Cup)

Flammable limits in air: No data

### Decomposition products under fire conditions

Decomposes to carbon monoxide/dioxide.

### Fire extinguishing media:

Use water (fog), carbon dioxide, dry chemical or dry sand.

### Precautions and special protective equipment for firefighters

A self-contained breathing apparatus (SCBA) and chemical resistant clothing is recommended for indoor and outdoor fires.

Do not allow fire-water to enter drains or natural waterways. Do not work in the leeward.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Emergency procedures

Evacuate area, contain and clean up spill immediately. Wash cleaned area with water and detergent.

Wear protective clothing, gloves and goggles/safety glasses. For large spills use an approved respirator with dust/particulate cartridge. Ventilate sufficiently during clean-up in case of inside spills.

### Containment of spill

Prevent spill from entering sewers, watercourses, or low areas. Collect in sand. Consult an expert on disposal of recovered material and ensure conformity with local disposal regulations.

## **SECTION 7 HANDLING and STORAGE**

### **Precautions for safe handling**

Wear appropriate personal protective equipment (see section 8).

Avoid ignition source.

Do not get in eyes, on skin, on clothing..

Do not swallow.

Avoid inhalation of product vapours or dust.

Do not eat or drink while working.

Wash thoroughly after handling (with soap and water).

### **Conditions for safe storage**

Keep containers tightly closed and keep away from moisture. Store in a cool well ventilated place away from incompatible materials (oxidizing materials). Do NOT handle or store near an open flame, heat or other sources of ignition.

## **SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Exposure Limits**

No exposure guidelines have been set for this substance or components.

All atmospheric contamination should be kept to as low a level as is practically possible.

### **Biological limit values**

BLVs have not been developed for this substance or components.

### **Engineering Controls**

Local exhaust ventilation of process equipment may be needed to control dusts or vapours. Use explosive dust handling controls.

### **Personal Protective Equipment**

*Eye protection:* Use close fitting safety goggles and/or glasses conforming to AS 1336 and AS/NZS 1337.

*Skin protection:* Use gauntlet gloves (latex or neoprene) and protective clothing conforming to AS 2161.2 and to AS 2919.

*Respiratory protection:* Use a half face-piece respirator (with goggles) or full face-piece respirator (without goggles) fitted with a dust/particulate cartridge, conforming to AS/NZS 1715 and 1716.

## SECTION 9 PHYSICAL and CHEMICAL PROPERTIES

Appearance: Yellow liquid  
Odour: Solvent odour  
pH: No data available  
Boiling point: 188.9°C (Diethylene glycol diethyl ether)  
Melting point: No data available  
Flash point: 71 °C  
Autoflammability: No data available  
Explosive properties: explosive limit -lower limits 0.6vol% (Diethylene glycol diethyl ether)  
-upper limits >13.0vol% (Diethylene glycol diethyl ether)

Oxidizing properties: No data available  
Vapor Pressure: 0.38mgHg@20deg.C (Diethylene glycol diethyl ether)  
Vapor density: No data available  
Specific gravity: 0.97g/cm3@25deg.C  
Solubility in Water: Very soluble (Diethylene glycol diethyl ether)  
Partition coefficient: No data available  
Viscosity: No data available

## SECTION 10 STABILITY and REACTIVITY

### Stability:

Stable at normal temperature and pressure. Store in a cool, well ventilated place away from incompatible materials (see below). For batch and expiry date refer to product label.

### Conditions to avoid:

Extremely high temperature. Do not handle or store near an open flame, heat or other sources of ignition. Ink may flash, when under high temperature.

### Incompatibility:

Acids and oxidizing agents.

**Hazardous polymerization:** Will not occur.

**Hazardous decomposition:** Hazardous thermal decomposition products include carbon dioxide/monoxide.

## SECTION 11 TOXICOLOGICAL INFORMATION

**Routes of exposure:** Eye, skin, inhalation, and oral

### Acute exposure:

Eyes: May be irritating  
Skin: May cause irritation and in some people swelling and redness  
Inhalation: May result in respiratory tract irritation and anesthesia  
Ingestion: May cause an upset stomach

**Chronic exposure:** No data. The yellow pigment is a nickel compound that is listed by IARC as a carcinogen. Based on analogue data, the ingredient polyalkyleneglycol ethylmethylether may cause harm to the unborn child or risk of impaired fertility after repeated exposure.

**Mugtagenicity:** Negative

Toxicity Data:	Diethylene glycol diethyl ether:	Rat Acute oral LD50 > 4790mg/kg
	Polyalkyleneglycol ethylmethylether:	Rat Acute oral LD50 > 6500 mg/kg
		Rabbit Acute dermal LD50 >7070 mg/kg
	Diethylene glycol diethyl ether	Rabbit eye irritation: moderate irritant
	Polyalkyleneglycol ethylmethylether	Rabbit eye irritation: moderate irritant

## SECTION 12 ECOLOGICAL INFORMATION

### Ecotoxicity

No information on product. Component was of low toxicity to fish, Daphnia and algae.

### Persistence/degradability

No information on product. Biodegradation is reported to low for glycol ether component.

### Mobility

Based on the high water solubility, product is expected to be mobile or enter groundwater.

### Environmental fate

Expected to partition mainly to water and soil,.

### Bioaccumulation potential

No information on product. Based on low log Pow and BCF for components, product is expected to have a low potential for bioaccumulation and bioconcentration.

## SECTION 13 DISPOSAL CONSIDERATIONS

### Disposal Methods

Waste disposal must be in accordance with appropriate State/Territory or national waste management regulations. Wastes should be landfilled or incinerated.

### Special Precautions

Do not dispose of to sewer.

## SECTION 14 TRANSPORT INFORMATION

**Australian Dangerous Goods Code:** Not Regulated

**DOT:** Not regulated

**IMO/IMDG:** Not regulated

## SECTION 15 AUSTRALIAN REGULATORY INFORMATION

**Classification:** This material is classified as hazardous according to the criteria of Safe Work Australia (2004) but not as a Dangerous Good (ADG Code 2008).

**Poison Schedule:** Not listed.

**Australian Inventory of Chemical Substances (AICS):** This product contains a component which is not listed on AICS.

## SECTION 16 OTHER INFORMATION

Date of revision: 30 March, 2010

This MSDS summarises our best knowledge, at the date of issue, of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Since Roland DG Australia Pty Ltd. cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Roland DG Australia Pty Ltd.

## REFERENCES

ADG (2008). Australian Dangerous Goods (7<sup>th</sup> Edn).

Safe Work Australia (2004). Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]. National Occupational Health and Safety Commission, Canberra, AusInfo.