

Safety Data Sheet

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

1.1. Product identifier

CLEANING LIQUID, (ESL5) 100ML CLEANING LIQUID, (ESL5) 500ML

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

1.3. Details of the supplier of the safety data sheet

Manufacture's name: Roland DG Corporation

Address: 1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi,

Shizuoka-ken, 431-2103

JAPAN

Phone: + 81-53-484-1224 Fax: + 81-53-484-1226

E-mail Address:

Revised date: 29 September, 2017

1.4. Emergency telephone:

2. Hazard identification

2.1. Classification of the substance or mixture

This product is not classified as hazardous according to Directive 1999/45/EC.

This product is classified as dangerous according to GHS. Flammable liquids Category 4

2.2. GHS label elements, incliding precautionary statements

Pictogram None

Signal word(s) Warning

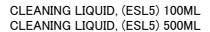
Hazard statement(s) Combustible liquid.

Precautionary statement(s)

Prevention Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

Wear protective gloves/protective clothing/eye protection/face protection.

Strage Store in a well-ventilated place.



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2.3. Other hazards

Potential Health Effects:

Eyes: Contact with eye may be mildly irritating.

Skin: Contact with skin may cause irritation, swelling or redness, allergic sensitization.

Inhalation: Exposure to vapors (mist) will cause respiratory irritation and anesthesia.

Ingestion: May cause upset stomach.

Chronic Health Hazards: Repeated skin contact may cause a persistent irritation or dermatitis.

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
Dialkylene glycol dialkyl ether	C.B.I.	C.B.I.	N/A for the moment	50-60	Not classified as hazardous
Polyalkylene glycol monoalkyl ether	C.B.I.	C.B.I.	N/A for the moment	50-60	Not classified as hazardous

^{*}C.B.I.: Confidential Business Information

4. First aid measures

4.1. Description of first aid measures

Eyes: In case of contact, immediately flush eyes with plenty of water for several minutes. Hold

eyelids open during flushing. Call a physician.

Skin: In case of contact, immediately flush with plenty of water while removing contaminated

clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs,

call a physician.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is

difficult, give oxygen. Call a physician.

Ingestion: If swallowed, DO NOT induce vomiting. Seek immediate medical advice.

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

Eyes: Contact with eye may be mildly irritating.

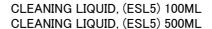
Skin: Contact with skin may cause irritation, swelling or redness, allergic sensitization.

Inhalation: Exposure to vapors (mist) will cause respiratory irritation and anesthesia.

Ingestion: May cause injury of mouth, throat, and stomach.

4.3. Indication of immediate medical attention and special treatment needed

No information



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5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

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

Unsuitable extinguishing media:

Water, High-pressure water jet

5.2. Special hazards arising from the substance or mixture

Flash Point: 71-72 deg.C

5.3. Advice for firefighters

Wear special chemical protective clothing and positive pressure self-contained breathing apparatus(SCBA). Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Decontaminate or discard any clothing that may contain chemical residues. Applying direct water may be dangerous because fire may expand to surroundings.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus and wear appropriate personal protective equipment.

6.2. Environmental precautions

Wipe off spillage. Prevent liquid from entering sewers, waterways or low areas.

6.3. Methods and material for containment and cleaning up

Sweep up material and dispose as waste following local regulations.

6.4. Reference to other sections

Refer to "Section 8 Exposure controls/ personal protection" and "Section 13 Disposal consideration" as appropriate.

7. Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Put protection wear that has electrical conductivity in case of work. Keep out of reach of children and do not drink.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed. Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with metals, amines, free radical initiators, oxidising agents.

7.3. Specific end use(s): Cleaning liquid

8. Exposure controls/ personal protection

8.1. Control parameters

Occupational Exposure Limits: Not specified.



8.2. Exposure controls:

Appropriate engineering controls: Provide general and/or local exhaust ventilation.

Respiratory protection: In case ventilation is insufficient, employee must use NIOSH approved air purifying

respiratory protection equipment. Use a half facepiece respirator (with goggles) or full face-piece respirator (without goggles) filtered with organic vapor cartridge. For emergency and other conditions where the exposure guideline may be exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self contained air supply. WARNING: Air-purifying

respirators do not protect workers in oxygen-deficient atmospheres.

Hand protection: Not required under suitable use as setting the cleaning liquid on the printer.

However, in case of direct contact to the cleaning liquid, use protective gloves.

Recommended impervious gloves is butyl rubber glove.

Eye protection: Not required under suitable use as setting the cleaning liquid on the printer.

However, in case of direct contact to the cleaning liquid, wear safety glasses or

chemical splash goggles.

Skin protection: Not required under suitable use as setting the cleaning liquid on the printer.

However, in case of direct contact to the cleaning liquid, 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
Appearance: Clear Liquid
Odour: Slightly

Odour threshold:
pH:
Not applicable
Melting point/freezing point:
No data available
Initial boiling point and boiling range: No data available
Flash point:
Flash point:
Flammability(solid, gas):
No data available
Not applicable

Upper/lower flammability or Explosive limits: 1.3-9.9v/v% (of Polyalkylene glycol monoalkyl ether)

explosive limits:

Vapor pressure: No data available

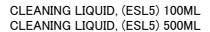
Vapor density: >1

Relative density: $0.9-1.1 \text{ (g/cm}^3, 20^{\circ}\text{C)}$ Solubility: No data available Solubility(ies): Water solubility: Soluble

Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity: No data available
Explosive properties: No data available
Oxidizing properties: No data available

Volatile organic compounds (VOC) 980 gram/liter (maximum value)

content:





9.2. Other information: No information

10. Stability and reactivity

10.1. Reactivity:

No reactivity under normal temperature

10.2. Chemical stability:

Stable under normal temperature

10.3. Possibility of hazardous reactions: Not expected

10.4. Conditions to avoid: Elevated temperatures/heat, UV light, when not in use.

10.5. Incompatible materials: Avoid contact with acids, amines, free radical initiators, oxidizing agents. 10.6. Hazardous decomposition products: Carbon monoxide, carbon dioxide, oxides of nitrogen, toxic gases/vapors.

11. Toxicological information

11.1. Information on toxicological effects

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

Acute toxicity:

Polyalkylene glycol monoalkyl ether (of one component of this product)

Oral LD50 7.1mL/kg(Rabbit)
Dermal LD50 11.3mL/kg(Rat)
Inhalant LC50 No data available

Skin corrosion/irritation:

Serious eye damage/eye irritation:

Respiratory or skin sensitisation:

Germ cell mutagenicity:

Reproductive toxicity:

No data available

No data available

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

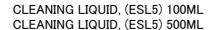
12.1. Toxicity:

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:
No data available
12.6. Other adverse effects:
No data available

13. Disposal considerations

13.1. Waste treatment methods:

Treatment, storage, transportation and disposal must be in accordance with applicable federal, state/provincial, and local regulations. Do not flush to surface water or sanitary sewer system.



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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.

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: None

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.