

Safety Data Sheet

US-GL

Revision: Version US_2.0

Revision Date: Jan-9-2024

1. Product and Company Identification

Product name: US-GL

Use of the product: Inkjet Printing

Manufacturer:

Manufacturer's name: Roland DG Corporation

Address: 1-1-2 Shinmiyakoda, Hamana-ku, Hamamatsu-shi, Shizuoka-ken, 431-2103

Phone: + 81-53-484-1224

FAX: + 81-53-484-1226

Importer/Supplier:

Supplier's name: Roland DGA Corporation

Address: 15363 Barranca Parkway Irvine, CA 92618 U.S.A.

Phone: +1-949-727-2100

FAX: +1-949-727-2112

E-mail:

Emergency telephone: +1-949-727-2100

Date of issue: Jan-9-2024

2. Hazard identification

2.1 Emergency Overview:

Appearance and odor:

Clear Liquid and Characteristic odour

Classification according to GHS.

Acute toxicity (oral)

Category 4

Skin corrosion/irritation

Category 1C

Serious eye damage/eye irritation

Category 1

Sensitization (Skin)

Category 1

Reproductive toxicity

Category 1B

Specific target organ toxicity (Single exposure)

Category 3

Hazardous to the aquatic environment (Chronic Hazard)

Category 2

GHS label elements, including precautionary statements
Pictogram(s)

Signal Word:

Danger

Hazard Statement:

Harmful if swallowed.

Causes severe skin burns and eye damage.

Causes serious eye damage.

May cause an allergic skin reaction.

May damage fertility or the unborn child.

May cause respiratory irritation.

Toxic to aquatic life with long lasting effects.

Safety Data Sheet

US-GL

Revision: Version US_2.0

Revision Date: Jan-9-2024

Precautionary statements — Prevention:

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements — Response:

- IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.2. OSHA regulatory status

This product is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

2.3. Other hazards

Potential Health Effects:

- Eyes: Causes severe eye injury which may persist for several days.
- Skin: Contact with skin may cause irritation, swelling or redness, allergic sensitization.
- Inhalation: Exposure to vapors (mist) may be harmful to the unborn child and at the risk of impaired fertility and irritate nose, throat/respiratory system.
- Ingestion: May cause injury of mouth, throat, and 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)
- Others: No information.

See section 11 for more information.

2.4. Potential environmental effects

See section 12 for Ecological information.

3. Composition/information on ingredients

Chemical nature: mixture

| Composition | CAS No. | % By Weight | Classification (HCS) Hazard Communication Standard |
|---|------------|-------------|---|
| 2-Propenoic acid, 2-phenoxyethyl ester | 48145-04-6 | 22-32 | Skin Sens. 1A: H317 Repr. 2: H361 Aquatic Chronic 2: H411 |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate | 5888-33-5 | 12-22 | Skin Sens. 1: H317 |
| Cyclic trimethylolpropane formal acrylate | 66492-51-1 | 10-20 | Skin Irrit. 2: H315 Skin Sens. 1B: H317 Aquatic Chronic 2: H411 |
| Morpholine, 4-(1-oxo-2-propenyl) | 5117-12-4 | <10 | Acute Tox. 4: H302 STOT RE 2: H373 Eye Dam. 1: H318 Skin Sens. 1: H317 |

Safety Data Sheet

Revision: Version US_2.0

US-GL

Revision Date: Jan-9-2024

| | | | |
|--|-------------|------|--|
| Tricyclo decane dimethanol diacrylate | 42594-17-2 | <3 | Skin Irrit. 2: H315 Eye Irrit. 2: H319 STOT Single Exp. 3: H335 Aquatic Chronic 2: H411 |
| Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 75980-60-8 | <10 | Repr. 1B: H360 Skin Sens.1: H317 |
| Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | 162881-26-7 | <1.5 | Aquatic Chronic 4: H413 |

4. First aid measures

4.1. First aid procedures

- 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. Note to physicians

May cause skin and eye irritation. Excessive inhalation of mist will cause respiratory irritation.

5. Firefighting measures

5.1. Flammable properties:

Incombustible liquid under Hazard Communication Standard (HCS, U.S.A).

Flash Point: 271.4deg.F

5.2. Extinguishing media

- Suitable extinguishing media: Dry chemical, Foam, Carbon dioxide, Dry sand, Loaded stream in spray.
- Unsuitable extinguishing media: High-pressure water jet

5.3. Protection of fire fighters

Special hazards arising from the substance or mixture

Hazardous decomposition products: Carbon monoxide, carbon dioxide, oxides of nitrogen, toxic gases/vapors.

Protective equipment and precautions 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

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.

Safety Data Sheet

US-GL

Revision: Version US_2.0

Revision Date: Jan-9-2024

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.

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 non-flammable 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. Put protection wear that has electrical conductivity in case of work. Keep out of reach of children and do not drink.

7.2. Storage

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.

8. Exposure controls/ personal protection**8.1. Exposure Guidelines**

Occupational Exposure Limits:

8.2. Engineering controls

Provide general and/or local exhaust ventilation.

8.3. Personal protective equipment (PPE)**Eye protection:**

Not required under suitable use as setting the ink on the printer. However, in case of direct contact to the ink, wear safety glasses or chemical splash goggles.

Hand protection:

Employee must wear appropriate protective impervious gloves to prevent contact with the ink. Recommended Chemical Protective Gloves are ethylene vinyl alcohol (EVA) Gloves and Lamine gloves. Lamine gloves are made by cutting and then heat-sealing patterns of various hand sizes from laminated sheets of EVA sealed between layers of polyethylene.

Skin protection:

Not required under suitable use as setting the ink on the printer. However, in case of direct contact to the

Safety Data Sheet

US-GL

Revision: Version US_2.0

Revision Date: Jan-9-2024

ink, wear protective clothing.

Respiratory protection:

In case ventilation is insufficient, employee must use NIOSH approved air purifying respiratory 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.

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: | Clear Liquid |
| odor: | Characteristic odour |
| odor threshold: | Not defined |
| pH: | Not applicable |
| melting point/freezing point: | No data available |
| initial boiling point and boiling range: | No data available |
| flash point: | 271.4deg.F |
| evaporation rate: | No data available |
| flammability (solid, gas): | Not applicable |
| vapor pressure: | No data available |
| vapor density: | No data available |
| specific gravity or relative density: | 1.1 |
| solubility in water: | Slightly soluble |
| partition coefficient: n-octanol/water: | No data available |
| auto-ignition temperature: | No data available |
| decomposition temperature: | No data available |
| volatile organic compounds (VOC) content: | No data available |

10. Stability and Reactivity

10.1 Reactivity:

High temperatures and UV light may cause rapid polymerization.

10.2. Possibility of hazardous reactions:

Not expected.

10.3. Chemical stability:

Stable under normal temperature.

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.

Safety Data Sheet

US-GL

Revision: Version US_2.0

Revision Date: Jan-9-2024

11. Toxicological information

Acute toxicity:

Morpholine, 4-(1-oxo-2-propenyl)

LD50 (oral) : 588mg/kgbw, LD50 (dermal): >2000mg/kgbw, LD50 (Inhal.): no data available

Serious eye damage/eye irritation:

Causes serious eye damage.

- Morpholine, 4-(1-oxo-2-propenyl)

Causes serious eye irritation.

- Tricyclo decane dimethanol diacrylate

Skin corrosion/irritation:

Causes skin irritation.

- Cyclic trimethylolpropane formal acrylate
- Tricyclo decane dimethanol diacrylate

Respiratory or skin sensitisation:

May cause an allergic skin reaction.

- 2-Propenoic acid, 2-phenoxyethyl ester
- Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate
- Cyclic trimethylolpropane formal acrylate
- Morpholine, 4-(1-oxo-2-propenyl)
- Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Germ cell mutagenicity:

no data available.

Reproductive toxicity:

May damage fertility or the unborn child.

- Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Suspected of damaging fertility or the unborn child.

- 2-Propenoic acid, 2-phenoxyethyl ester

Carcinogenicity:

None of the ingredients in this ink is listed by IARC as a carcinogen. (1, 2A and 2B)

Specific target organ toxicity - single exposure, (STOT-SE):

no data available.

Specific target organ toxicity - repeat exposure, (STOT-RE):

May cause damage to organs through prolonged or repeated exposure.

- Morpholine, 4-(1-oxo-2-propenyl)

Aspiration hazard:

no data available.

12. Ecological information

Ecotoxicity:

Toxic to aquatic life with long lasting effects.

- 2-Propenoic acid, 2-phenoxyethyl ester

Safety Data Sheet

US-GL

Revision: Version US_2.0

Revision Date: Jan-9-2024

- Cyclic trimethylolpropane formal acrylate
 - Tricyclo decane dimethanol diacrylate
- May cause long lasting harmful effects to aquatic life.
- Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

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 : 3066

14.2 UN proper shipping name

ADR/ADG/DOT, IMDG, or IATA : Paint related material

14.3 Transport hazard class(es)

ADR/ADG/DOT, IMDG, or IATA : 8

14.4 Packing group

ADR/ADG/DOT, IMDG, or IATA : III

14.5 Environmental hazards

ADR/ADG/DOT, IMDG, or IATA : Environmentally hazardous substance, liquid, n.o.s.

14.6. Special precautions for user

ADR/ADG/DOT, IMDG, or IATA : 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

Federal Regulations

Toxic Substance Control Act (TSCA):

All components of this product are listed on the TSCA Inventory.

This product contains an ingredient that is regulated under the TSCA Significant New Use Rules (SNURs) prescribed 40 CFR §721.5185. This SNUR designates specific requirements for protection in the workplace,

Safety Data Sheet

Revision: Version US_2.0

US-GL

Revision Date: Jan-9-2024

hazard communication, releases to water and Recordkeeping.

This product is subject to TSCA export notification requirements prescribed 40 CFR 707.60.

SARA Title III Rules

Section 313/312 Hazard Classes

- | | |
|--|--|
| <input type="checkbox"/> Explosive | <input checked="" type="checkbox"/> Acute toxicity (any route of exposure) |
| <input type="checkbox"/> Flammable (gases, aerosols, liquids, or solids) | <input checked="" type="checkbox"/> Skin corrosion or irritation |
| <input type="checkbox"/> Oxidizer (liquid, solid, or gas) | <input checked="" type="checkbox"/> Serious eye damage or eye irritation |
| <input type="checkbox"/> Self-reactive | <input checked="" type="checkbox"/> Respiratory or skin sensitization |
| <input type="checkbox"/> Pyrophoric (liquid or solid) | <input type="checkbox"/> Germ cell mutagenicity |
| <input type="checkbox"/> Pyrophoric Gas | <input type="checkbox"/> Carcinogenicity |
| <input type="checkbox"/> Self-heating | <input checked="" type="checkbox"/> Reproductive toxicity |
| <input type="checkbox"/> Organic peroxide | <input checked="" type="checkbox"/> Specific target organ toxicity (single or repeated exposure) |
| <input type="checkbox"/> Corrosive to metal | <input type="checkbox"/> Aspiration hazard |
| <input type="checkbox"/> Gas under pressure (compressed gas) | <input type="checkbox"/> Simple Asphyxiant |
| <input type="checkbox"/> In contact with water emits flammable gas | <input type="checkbox"/> Hazard not otherwise classified |
| <input type="checkbox"/> Combustible Dust | |
| <input type="checkbox"/> Hazard not otherwise classified | |

Section 302 Extremely Hazardous Substances (EHS)

None of the ingredients are listed.

Section 313 Toxic Chemicals

Glycol Ethers (N230)

CERCLA Hazardous Substances

Glycol Ethers (N230) RQ†

† - There is no RQ assigned to this broad class, although the class is a CERCLA hazardous substances. Refer to 50 Federal Register 13456 (April 4, 1985).

RCRA (Hazardous waste code)

None Assigned

State Regulations

California Proposition 65:

None of the ingredients are listed.

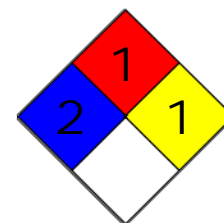
16. Other information

NFPA Rating (NFPA 704):

NFPA Health Hazard: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA Flammability: 1 - Must be preheated before ignition can occur.

NFPA Instability: 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



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

Safety Data Sheet

Revision: Version US_2.0

US-GL

Revision Date: Jan-9-2024

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.