

Safety Data Sheet

1. Product and Company Identification

Product name: SUBLIMATION INK, SBL2-CY

| Manufacture: | 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 |
| Importer/Supplier: | Roland DGA Corporation |
| Address: | 15363 Barranca Parkway Irvine, CA 92618-2201 |
| | U.S.A. |
| Phone: | 949-727-2100 |
| Fax: | 949 727 2112 |
| Emergency telephone: | 949-727-2100 |
| Use of the product: | Inkjet Printing |
| Date of issue: | 28 December, 2015 |
| | |
| 2 Hazard Identification | |

2. Hazard Identification

| 2.1 Emergency Overview: | |
|-------------------------|--------------------------|
| Appearance and odor: | Cyan liquid and slightly |

This product is not classified as dangerous according to GHS.

GHS label elements, incliding precautionary statements

The product does not need to be labelled in accordance with GHS criteria.

2.2. OSHA regulatory status

This product is not considered hazardous material by the OSHA Communication Standard (29 CFR 1910.1200)

| 2.3. Potential health effects Likely route of exposure: Eyes: | Eye, skin, inhalation or oral. Contact with eye may be mildly irritating. |
|---|--|
| Skin: | Contact with skin may cause irritation, swelling or redness. |
| Inhalation: | Exposure to vapors (mist) will cause respiratory irritation and anesthesia. |
| Ingestion: | May cause upset stomach. |
| Chronic Health Hazards: | No information available. |
| Carcinogenicity: | None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B) |

See section 11 for more information.

3. Composition/Information on Ingredients

| Composition | CAS No. | % By Weight | Classification HCS |
|-------------|---------|-------------|-----------------------------|
| Glycerol | 56-81-5 | 20-30 | Not classified as hazardous |

4. First Aid Measures

| 4.1. First aid procedures | |
|---------------------------|--|
| Eye | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician. |
| Skin | In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician. |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. |
| Ingestion | If swallowed, DO NOT induce vomiting. Seek immediate medical advice. |

4.2. Note to physicians

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

5. Fire Fighting Measures

5.1. Flammable properties:

Not Flammable, Flash Point: >100 °C

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion. Exposure to decomposition products may be a hazard to health. Cool closed containers exposed to fire with water spray. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.2. Extinguishing media

Suitable extinguishing media:

Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media:

Do NOT use water jet.

5.3. Protection of fire fighters

Special hazards arising from the substance or mixture

Toxic and irritating fume and/or gases may generate by combustion.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective equipment. Applying direct water may be dangerous because fire may expand to surroundings.



6. Accidental Release Measures

General:

Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions

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

- 6.2. Environmental precautions Wipe off spillage. Prevent liquid from entering sewers, waterways or low areas.
- 6.3. Methods for containment Dike spilled product.
- 6.4. Methods for Clean-up

Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

- 6.5. Other information No information
- 6.6. Spill or leak statements by type of chemical

Eliminate all ignition sources. Use appropriate personal protective equipment (PPE). Absorb and/or contain spill with inert sand, then place in suitable container. For large spills; use water spray to disperse vapers and dilute spill to a nonflamable mixture. Do not flush to sewer. Prevent run-off from entering drains, sewers or waterways.

7. Handling And Storage

7.1. Handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink. Do not dismantle container.

7.2. Storage

Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with oxidizing agents or explosives.

8. Exposure Controls/Personal Protection

8.1. Exposure Guidelines

Occupational Exposure Limits:

US:

| components | OSHA:PEL | ACGIH:TLV |
|-----------------|--------------------|---------------------|
| Glycerol (mist) | 15mg/m^3 | 10mg/m ³ |

Australia: OELs

| usuai | | | | | |
|-------|-----------------|---------------------|------|--|--|
| | components | TWA | STEL | | |
| | Glycerol (mist) | 10mg/m ³ | - | | |

8.2. Engineering controls

Control the airborne concentrations below the exposure limits. Use only with adequate ventilation.

Roland

| 8.3. | Personal protective equipment (PPE) Eye/face protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear safety glasses or chemical splash goggles. |
|------|---|---|
| | Hand protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves. |
| | Skin protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear protective clothing. |
| | Respiratory protection: | Not required under suitable use as setting the cartridge on the printer. However, in case ventilation is not sufficient, wear respiratory protection. |
| | 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. P | hysical and Chemical Properties | |
| | Appearance: | Cyan Liquid |
| | Odor: | Slightly |
| | pH: | No data available |
| | Boiling point: | No data available |
| | Flash point: | >100 °C |
| | Flammability(solid,gas): | None |
| | Explosive properties: | None |
| | Oxidizing properties: | None |
| | Vapor pressure: | No data available |
| | Relative density: | 1.08 g/cm^3 |
| | Solubility: | No data available |
| | Water Solubility: | No data available |
| | Partition coefficient: n-octanol/water: | No data available |

Viscosity: $\leq 60 \text{ s}$
Transversale section: 6 mm Method: 2431 '84 (ISO 6)Vapor density:No data availableEvaporation rate:No data availableMelting point:No data availableVolatile organic compounds (VOC)330.0 gram/liter (maximum value)content:Volatile organic compounds (VOC)

10. Stability and Reactivity

| 10.1. Reactivity: | No data available |
|---|---|
| 10.2. Possibility of hazardous reactions: | Not expected |
| 10.3. Chemical stability: | Stable under normal temperature |
| 10.4. Conditions to avoid: | Taking the product type into account, it is advisable to leave the product in its |
| | original packaging thus avoiding transferring it. |
| 10.5. Incompatible materials: | Keep away from oxidising agents, strongly alkaline and strongly acid materials |
| | in order to avoid exothermic reactions. |
| 10.6. Hazardous decomposition products: | No data available |



11. Toxicological information

| Acute toxicity: | | |
|---|---|---|
| | Oral LD50 Dermal LD50 Inhalant LC50 | No data available No data available No data available |
| Skin corrosion/irritation: | | ontact with the mixture may cause removal of natural g in desiccation of the skin. The product may be |
| Serious eye damage/eye irritation: Respiratory or skin sensitisation: Germ cell mutagenicity: | No data available No data available No data available | |
| Reproductive toxicity: Carcinogenicity: | No data available None of the ingredients in 2B) | n this ink is listed by IARC as a carcinogen. (1,2A and |
| STOT-single exposure: STOT-repeated exposure: | and redness. | y cause irritation and in some people swelling espiratory irritation and anesthesia. |
| Aspiration hazard: | No data available | |
| 12. Ecological Information | | |
| Ecotoxicity: | No data available | |
| Persistence/Degradability: | No data available | |
| Bioaccumulation/Accumulation: | No data available | |
| Mobility in environment media: | No data available | |

13. Disposal Considerations

Other adverse effects:

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.

No data available

14. Transport Information

| 14.1. UN Class/UN Number | |
|------------------------------------|---|
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.2. UN proper shipping name | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.3. Transport hazard class(es) | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.4. Packing group | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.5. Environmental hazards | |
| DOT/ADR/ADG, 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

| US Information: | |
|-----------------|--|
|-----------------|--|

Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.

| California Proposition 65: | Not regulated |
|----------------------------|---------------|
| | |

SARA TITLE III:

Not regulated

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: Not classified as hazardous according to NOHSC criteria.

16. Other Information

NFPA 704: Hazard Rating System

Health - 1, Flammable - 0, Reactivity - 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DG does not warrant the completeness or accuracy of the information contained herein.



Safety Data Sheet

1. Product and Company Identification

Product name: SUBLIMATION INK, SBL2-YE

| Manufacture: Address: | Roland DG Corporation 1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi, Shizuoka-ken, 431-2103 |
|--------------------------------|--|
| Phone: | JAPAN + 81-53-484-1224 |
| Fax: | + 81-53-484-1226 |
| Importer/Supplier: Address: | Roland DGA Corporation 15363 Barranca Parkway Irvine, CA 92618-2201 U.S.A. |
| Phone: | 949-727-2100 |
| Fax: | 949 727 2112 |
| Emergency telephone: | 949-727-2100 |
| Use of the product: | Inkjet Printing |
| Date of issue: | 28 December, 2015 |
| | |
| | |

2. Hazard Identification

| 2.1 Emergency Overview: | |
|-------------------------|----------------------------|
| Appearance and odor: | Yellow liquid and slightly |

This product is not classified as dangerous according to GHS.

GHS label elements, incliding precautionary statements The product does not need to be labelled in accordance with GHS criteria.

2.2. OSHA regulatory status

This product is not considered hazardous material by the OSHA Communication Standard (29 CFR 1910.1200)

| 2.3. Potential health effects | | |
|-------------------------------|--|--|
| Likely route of exposure: | Eye, skin, inhalation or oral. | |
| Eyes: | Contact with eye may be mildly irritating. | |
| Skin: | Contact with skin may cause irritation, swelling or redness. | |
| Inhalation: | Exposure to vapors (mist) will cause respiratory irritation and anesthesia. | |
| Ingestion: | May cause upset stomach. | |
| Chronic Health Hazards: | No information available. | |
| Carcinogenicity: | None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B) | |

See section 11 for more information.

2.4. Potential environmental effects

See section 12 for Ecological information.

3. Composition/Information on Ingredients

| Composition | CAS No. | % By Weight | Classification HCS |
|-----------------------------|-----------|-------------|--|
| Glycerol | 56-81-5 | 20-30 | Not classified as hazardous |
| Sodium naphthalen sulfonate | 9084-06-4 | 1-3 | Eye Irrit. 2: H319 STOT SE 3: H335 Skin Irrit. 2: H315 |

4. First Aid Measures

4.1. First aid procedures

| Еуе | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician. |
|------------|--|
| Skin | In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician. |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. |
| Ingestion | If swallowed, DO NOT induce vomiting. Seek immediate medical advice. |

4.2. Note to physicians

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

5. Fire Fighting Measures

5.1. Flammable properties:

Not Flammable, Flash Point: >100 °C

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion. Exposure to decomposition products may be a hazard to health. Cool closed containers exposed to fire with water spray. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.2. Extinguishing media

Suitable extinguishing media:

Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

- Unsuitable extinguishing media:
 - Do NOT use water jet.

5.3. Protection of fire fighters

Special hazards arising from the substance or mixture

Toxic and irritating fume and/or gases may generate by combustion.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective equipment. Applying direct water may be dangerous because fire may expand to surroundings.



6. Accidental Release Measures

General:

Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions

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

6.2. Environmental precautions

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

- 6.3. Methods for containment Dike spilled product.
- 6.4. Methods for Clean-up

Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

6.5. Other information

No information

6.6. Spill or leak statements by type of chemical

Eliminate all ignition sources. Use appropriate personal protective equipment (PPE). Absorb and/or contain spill with inert sand, then place in suitable container. For large spills; use water spray to disperse vapers and dilute spill to a nonflamable mixture. Do not flush to sewer. Prevent run-off from entering drains, sewers or waterways.

7. Handling And Storage

7.1. Handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink. Do not dismantle container.

7.2. Storage

Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with oxidizing agents or explosives.

8. Exposure Controls/Personal Protection

8.1. Exposure Guidelines

Occupational Exposure Limits:

US:

| components | OSHA:PEL | ACGIH:TLV |
|-----------------|---------------------|--------------------|
| Glycerol (mist) | 15mg/m ³ | 10mg/m^3 |

Australia: OELs

| components | TWA | STEL |
|-----------------|---------------------|------|
| Glycerol (mist) | 10mg/m ³ | - |

8.2. Engineering controls

Control the airborne concentrations below the exposure limits. Use only with adequate ventilation.

Roland

| 8.3. Personal protective equipment (PP) | E) |
|---|---|
| Eye/face protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear safety glasses or chemical splash goggles. |
| Hand protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves. |
| Skin protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear protective clothing. |
| Respiratory protection: | Not required under suitable use as setting the cartridge on the printer. However, in case ventilation is not sufficient, wear respiratory protection. |
| 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: | Yellow Liquid |
| Odor: | Slightly |
| pH: | No data available |
| | |

| pH: | No data available |
|---|---|
| Boiling point: | No data available |
| Flash point: | > 100 °C |
| Flammability(solid,gas): | None |
| Explosive properties: | None |
| Oxidizing properties: | None |
| Vapor pressure: | No data available |
| Relative density: | 1.08 g/cm^3 |
| Solubility: | No data available |
| Water Solubility: | No data available |
| Partition coefficient: n-octanol/water: | No data available |
| Viscosity: | <u>≤</u> 60 s |
| | Transversale section: 6 mm Method: 2431 '84 (ISO 6) |
| Vapor density: | No data available |
| Evaporation rate: | No data available |
| Melting point: | No data available |
| Volatile organic compounds (VOC) content: | 330.0 gram/liter (maximum value) |

10. Stability and Reactivity

| 10.1. Reactivity: | No data available | |
|---|---|--|
| 10.2. Possibility of hazardous reactions: | Not expected | |
| 10.3. Chemical stability: | Stable under normal temperature | |
| 10.4. Conditions to avoid: | Taking the product type into account, it is advisable to leave the product in its | |
| | original packaging thus avoiding transferring it. | |
| 10.5. Incompatible materials: | Keep away from oxidising agents, strongly alkaline and strongly acid materials in | |
| | order to avoid exothermic reactions. | |
| 10.6. Hazardous decomposition products: No data available | | |

11. Toxicological information

| Acute toxicity: | | |
|----------------------------|---|-------------------|
| | Oral LD50 | No data available |
| | Dermal LD50 | No data available |
| | Inhalant LC50 | No data available |
| Skin corrosion/irritation: | n corrosion/irritation: No data available Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin. The product may be absorbed | |
| | | |
| | | |
| | through the skin. | |



| Serious eye damage/eye irritation: Respiratory or skin sensitisation: | No data available No data available |
|--|---|
| Germ cell mutagenicity: | No data available |
| Reproductive toxicity: | No data available |
| Carcinogenicity: | None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B) |
| | |
| STOT-single exposure: | Overexposure of eye may be mildly irritating. Overexposure of skin may cause irritation and in some people swelling and redness. |
| | Inhalation may result in respiratory irritation and anesthesia. |
| | Ingestion may result in respiratory initiation and anestiestic. |
| STOT-repeated exposure: | No data available |
| Aspiration hazard: | No data available |
| 12. Ecological Information | |
| Ecotoxicity: | No data available |
| Persistence/Degradability: | No data available |
| Bioaccumulation/Accumulation: | No data available |
| Mobility in environment media: | No data available |
| Other adverse effects: | No data available |
| | |

13. Disposal Considerations

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

14. Transport Information

| 14.1. UN Class/UN Number | |
|------------------------------------|---|
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.2. UN proper shipping name | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.3. Transport hazard class(es) | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.4. Packing group | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.5. Environmental hazards | |
| DOT/ADR/ADG, 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

US Information:

Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.

| California Proposition 65: | Not regulated |
|----------------------------|---------------|
| SARA TITLE III: | Not regulated |

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: Not classified as hazardous according to NOHSC criteria.

16. Other Information

NFPA 704: Hazard Rating System

Health - 1, Flammable - 0, Reactivity - 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DG does not warrant the completeness or accuracy of the information contained herein.



Safety Data Sheet

1. Product and Company Identification

Product name: SUBLIMATION INK, SBL2-MG

| Manufacture: | 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 |
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| Address: | 15363 Barranca Parkway Irvine, CA 92618-2201 |
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| Phone: | 949-727-2100 |
| Fax: | 949 727 2112 |
| Emergency telephone: | 949-727-2100 |
| Use of the product: | Inkjet Printing |
| Date of issue: | 28 December, 2015 |
| | |
| 2 Hazard Idantification | |

2. Hazard Identification

| 2.1 Emergency Overview: | |
|-------------------------|-----------------------------|
| Appearance and odor: | Magenta liquid and slightly |

This product is not classified as dangerous according to GHS.

GHS label elements, incliding precautionary statements

The product does not need to be labelled in accordance with GHS criteria.

2.2. OSHA regulatory status

This product is not considered hazardous material by the OSHA Communication Standard (29 CFR 1910.1200)

| 2.3. Potential health effects | |
|-------------------------------|--|
| Likely route of exposure: | Eye, skin, inhalation or oral. |
| Eyes: | Contact with eye may be mildly irritating. |
| Skin: | Contact with skin may cause irritation, swelling or redness. |
| Inhalation: | Exposure to vapors (mist) will cause respiratory irritation and anesthesia. |
| Ingestion: | May cause upset stomach. |
| Chronic Health Hazards: | No information available. |
| Carcinogenicity: | None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B) |
| | |

See section 11 for more information.

2.4. Potential environmental effects

See section 12 for Ecological information.

3. Composition/Information on Ingredients

| Composition | CAS No. | % By Weight | Classification HCS |
|-------------|---------|-------------|--------------------------------|
| Glycerol | 56-81-5 | 20-30 | Not classified as hazardous |

4. First Aid Measures

| 4.1. First aid procedure |
|--------------------------|
|--------------------------|

| ••• | ren procedures | |
|-----|----------------|--|
| | Eye | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician. |
| | Skin | In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician. |
| | Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. |
| | Ingestion | If swallowed, DO NOT induce vomiting. Seek immediate medical advice. |

4.2. Note to physicians

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

5. Fire Fighting Measures

5.1. Flammable properties:

Not Flammable, Flash Point: >100 °C

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion. Exposure to decomposition products may be a hazard to health. Cool closed containers exposed to fire with water spray. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.2. Extinguishing media

Suitable extinguishing media:

Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media:

Do NOT use water jet.

5.3. Protection of fire fighters

Special hazards arising from the substance or mixture

Toxic and irritating fume and/or gases may generate by combustion.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective equipment. Applying direct water may be dangerous because fire may expand to surroundings.



6. Accidental Release Measures

General:

Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions

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

6.2. Environmental precautions

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

6.3. Methods for containment

Dike spilled product.

6.4. Methods for Clean-up

Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

6.5. Other information

No information

6.6. Spill or leak statements by type of chemical

Eliminate all ignition sources. Use appropriate personal protective equipment (PPE). Absorb and/or contain spill with inert sand, then place in suitable container. For large spills; use water spray to disperse vapers and dilute spill to a nonflamable mixture. Do not flush to sewer. Prevent run-off from entering drains, sewers or waterways.

7. Handling And Storage

7.1. Handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink. Do not dismantle container.

7.2. Storage

Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with oxidizing agents or explosives.

8. Exposure Controls/Personal Protection

8.1. Exposure Guidelines

Occupational Exposure Limits:

US:

| components | OSHA:PEL | ACGIH:TLV |
|-----------------|---------------------|---------------------|
| Glycerol (mist) | 15mg/m ³ | 10mg/m ³ |

Australia: OELs

| components | TWA | STEL |
|-----------------|---------------------|------|
| Glycerol (mist) | 10mg/m ³ | - |

8.2. Engineering controls

Control the airborne concentrations below the exposure limits. Use only with adequate ventilation.

Roland

| 8.3. Personal protective equipment (PPE) Eye/face protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear safety glasses or chemical splash goggles. |
|--|---|
| Hand protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves. |
| Skin protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear protective clothing. |
| Respiratory protection: | Not required under suitable use as setting the cartridge on the printer. However, in case ventilation is not sufficient, wear respiratory protection. |
| 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: | Magenta Liquid |
| Odor: | Slightly |
| | · · · · · · · · · · · · · · · · · · · |

| Odor: | Slightly |
|---|---|
| pH: | No data available |
| Boiling point: | No data available |
| Flash point: | > 100 °C |
| Flammability(solid,gas): | None |
| Explosive properties: | None |
| Oxidizing properties: | None |
| Vapor pressure: | No data available |
| Relative density: | 1.08 g/cm^3 |
| Solubility: | No data available |
| Water Solubility: | No data available |
| Partition coefficient: n-octanol/water: | No data available |
| Viscosity: | <u>≤</u> 60 s |
| | Transversale section: 6 mm Method: 2431 '84 (ISO 6) |
| Vapor density: | No data available |
| Evaporation rate: | No data available |
| Melting point: | No data available |
| Volatile organic compounds (VOC) | 330.0 gram/liter (maximum value) |
| content: | |

10. Stability and Reactivity

| 10.1. Reactivity: | No data available |
|---|---|
| 10.2. Possibility of hazardous reactions: | Not expected |
| 10.3. Chemical stability: | Stable under normal temperature |
| 10.4. Conditions to avoid: | Taking the product type into account, it is advisable to leave the product in its original packaging thus avoiding transferring it. |
| 10.5. Incompatible materials: | Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. |
| 10.6. Hazardous decomposition products: | No data available |



11. Toxicological information

| Acute toxicity: | | |
|------------------------------------|----------------------------|---|
| | Oral LD50 | No data available |
| | Dermal LD50 | No data available |
| | Inhalant LC50 | No data available |
| Skin corrosion/irritation: | No data available | |
| | Repeated or prolonged c | ontact with the mixture may cause removal of natural |
| | fat from the skin resultin | g in desiccation of the skin. The product may be |
| | absorbed through the ski | |
| Serious eye damage/eye irritation: | No data available | |
| Respiratory or skin sensitisation: | No data available | |
| Germ cell mutagenicity: | No data available | |
| Reproductive toxicity: | No data available | |
| Carcinogenicity: | None of the ingredients i | n this ink is listed by IARC as a carcinogen. (1,2A and |
| | 2B) | |
| STOT-single exposure: | Overexposure of eye may | y be mildly irritating. |
| | Overexposure of skin ma | y cause irritation and in some people swelling |
| | and redness. | |
| | | respiratory irritation and anesthesia. |
| | Ingestion may cause an u | pset stomach. |
| STOT-repeated exposure: | No data available | |
| Aspiration hazard: | No data available | |
| 12. Ecological Information | | |
| Ecotoxicity: | No data available | |
| Persistence/Degradability: | No data available | |
| Bioaccumulation/Accumulation: | No data available | |
| Mobility in environment media: | No data available | |
| Other adverse effects: | No data available | |
| | | |

13. Disposal Considerations

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

14. Transport Information

| 14.1. UN Class/UN Number | |
|------------------------------------|---|
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.2. UN proper shipping name | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.3. Transport hazard class(es) | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.4. Packing group | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.5. Environmental hazards | |
| DOT/ADR/ADG, 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

| US Information: | |
|-----------------|--|
|-----------------|--|

Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.

| California Proposition 65: | Not regulated |
|----------------------------|---------------|
| SARA TITLE III: | Not regulated |

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: Not classified as hazardous according to NOHSC criteria.

16. Other Information

NFPA 704: Hazard Rating System

Health - 1, Flammable - 0, Reactivity - 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DG does not warrant the completeness or accuracy of the information contained herein.



Safety Data Sheet

1. Product and Company Identification

Product name:

SUBLIMATION INK, SBL2-BK

| Manufacture: | 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 |
| Importer/Supplier: | Roland DGA Corporation |
| Address: | 15363 Barranca Parkway Irvine, CA 92618-2201 |
| | U.S.A. |
| Phone: | 949-727-2100 |
| Fax: | 949 727 2112 |
| Emergency telephone: | 949-727-2100 |
| Use of the product: | Inkjet Printing |
| Date of issue: | 28 December, 2015 |
| | |
| 2. Hazard Identification | |
| 2.1 Emergency Overview: | |
| Appearance and odor: | Black liquid and slightly |

This product is not classified as dangerous according to GHS.

GHS label elements, incliding precautionary statements

The product does not need to be labelled in accordance with GHS criteria. Contains C.I. Disperse Blue 360. May produce an allergic reaction.

2.2. OSHA regulatory status

This product is not considered hazardous material by the OSHA Communication Standard (29 CFR 1910.1200)

2.3. Potential health effects

| Likely route of exposure: Eyes: | Eye, skin, inhalation or oral. Contact with eye may be mildly irritating. |
|------------------------------------|--|
| Skin: | Contact with skin may cause irritation, swelling or redness. |
| Inhalation: | Exposure to vapors (mist) will cause respiratory irritation and anesthesia. |
| Ingestion: | May cause upset stomach. |
| Chronic Health Hazards: | No information available. |
| Carcinogenicity: | None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B) |

See section 11 for more information.

2.4. Potential environmental effects

See section 12 for Ecological information.

3. Composition/Information on Ingredients

| Composition | CAS No. | % By Weight | Classification HCS |
|-------------|---------|-------------|-----------------------------|
| Glycerol | 56-81-5 | 20-30 | Not classified as hazardous |

4. First Aid Measures

4.1. First aid procedures

| Eye | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during flushing. Call a physician. |
|------------|--|
| Skin | In case of contact, immediately flush with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If swelling or redness occurs, call a physician. |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. |
| Ingestion | If swallowed, DO NOT induce vomiting. Seek immediate medical advice. |

4.2. Note to physicians

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

5. Fire Fighting Measures

- 5.1. Flammable properties:
 - Not Flammable, Flash Point: >100 °C

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion. Exposure to decomposition products may be a hazard to health. Cool closed containers exposed to fire with water spray. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.2. Extinguishing media

Suitable extinguishing media:

Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media:

Do NOT use water jet.

5.3. Protection of fire fighters

Special hazards arising from the substance or mixture

Toxic and irritating fume and/or gases may generate by combustion.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective equipment. Applying direct water may be dangerous because fire may expand to surroundings.



6. Accidental Release Measures

General:

Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill. Absorb spill with sand or earth then place in a chemical waste container.

6.1. Personal precautions

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

6.2. Environmental precautions

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

- 6.3. Methods for containment Dike spilled product.
- 6.4. Methods for Clean-up

Sweep up material and dispose as waste following local regulations. Scrub contaminated area with detergent and water.

6.5. Other information

No information

6.6. Spill or leak statements by type of chemical

Eliminate all ignition sources. Use appropriate personal protective equipment (PPE). Absorb and/or contain spill with inert sand, then place in suitable container. For large spills; use water spray to disperse vapers and dilute spill to a nonflamable mixture. Do not flush to sewer. Prevent run-off from entering drains, sewers or waterways.

7. Handling And Storage

7.1. Handling

Avoid contact with eyes, skin and clothing. Use proper ventilation and no fire in work place. Keep out of reach of children and do not drink. Do not dismantle container.

7.2. Storage

Do not store the product in high or freezing temperatures. Keep the product out of direct sunlight. Do not store the product with oxidizing agents or explosives.

8. Exposure Controls/Personal Protection

8.1. Exposure Guidelines

Occupational Exposure Limits:

US:

| components | OSHA:PEL | ACGIH:TLV |
|-----------------|--------------------|--------------------|
| Glycerol (mist) | 15mg/m^3 | 10mg/m^3 |
| Australia: OELs | | |
| components | TWA | STEL |
| Glycerol (mist) | 10mg/m^3 | - |

8.2. Engineering controls

Control the airborne concentrations below the exposure limits. Use only with adequate ventilation.

Roland

| 8.3. Personal protective equipment (PPE) | |
|---|---|
| Eye/face protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear safety glasses or chemical splash goggles. |
| Hand protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, use protective gloves. |
| Skin protection: | Not required under suitable use as setting the cartridge on the printer. However, in case of direct contact to ink, wear protective clothing. |
| Respiratory protection: | Not required under suitable use as setting the cartridge on the printer. However, in case ventilation is not sufficient, wear respiratory protection. |
| 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: | Black Liquid |
| Odor: | Slightly |
| pH: | No data available |
| Boiling point: | No data available |
| Flash point: | > 100 °C |
| Flammability(solid,gas): | None |
| Explosive properties: | None |
| Oxidizing properties: | None |
| Vapor pressure: | No data available |
| Relative density: | 1.1 g/cm^3 |
| Solubility: | No data available |
| Water Solubility: | No data available |
| Partition coefficient: n-octanol/water: | No data available |
| Viscosity: | $\leq 60 \text{ s}$ |
| | Transversale section: 6 mm Method: 2431 '84 (ISO 6) |
| Vapor density: | No data available |
| Evaporation rate: | No data available |
| Melting point: | No data available |
| Volatile organic compounds (VOC) content: | 330.0 gram/liter (maximum value) |
| 10. Stability and Reactivity | |
| 10.1. Reactivity: | No data available |
| 10.2. Possibility of hazardous reactions: | Not expected |
| 10.3. Chemical stability: | Stable under normal temperature |
| 10.4. Conditions to avoid: | Taking the product type into account, it is advisable to leave the product in its original packaging thus avoiding transferring it. |
| 10.5. Incompatible materials: | Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. |
| 10.6. Hazardous decomposition products: | No data available |
| 11. Toxicological information | |

| 11. Toxicological information | | | |
|-------------------------------|---|-------------------|--|
| Acute toxicity: | | | |
| - | Oral LD50 | No data available | |
| | Dermal LD50 | No data available | |
| | Inhalant LC50 | No data available | |
| Skin corrosion/irritation: | No data available | | |
| | Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin. The product may be absorbed | | |
| | | | |



| | through the skin. |
|------------------------------------|---|
| Serious eye damage/eye irritation: | No data available |
| Respiratory or skin sensitisation: | No data available |
| Germ cell mutagenicity: | No data available |
| Reproductive toxicity: | No data available |
| Carcinogenicity: | None of the ingredients in this ink is listed by IARC as a carcinogen. (1,2A and 2B) |
| | |
| STOT-single exposure: | Overexposure of eye may be mildly irritating. |
| | Overexposure of skin may cause irritation and in some people swelling and redness. Inhalation may result in respiratory irritation and anesthesia. |
| | Ingestion may cause an upset stomach. |
| STOT-repeated exposure: | No data available |
| Aspiration hazard: | No data available |
| 12. Ecological Information | |
| Ecotoxicity: | No data available |
| Persistence/Degradability: | No data available |
| Bioaccumulation/Accumulation: | No data available |
| Mobility in environment media: | No data available |
| Other adverse effects: | No data available |

13. Disposal Considerations

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

| 14. Transport Information | |
|------------------------------------|---|
| 14.1. UN Class/UN Number | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.2. UN proper shipping name | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.3. Transport hazard class(es) | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.4. Packing group | |
| DOT/ADR/ADG, IMDG, or IATA : | Not regulated |
| 14.5. Environmental hazards | |
| DOT/ADR/ADG, 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

US Information:

Toxic Substances Control Act (TSCA): All ingredients are listed on the TSCA Inventory.

| California Proposition 65: | Not regulated |
|----------------------------|---------------|
| SARA TITLE III: | Not regulated |

SARA TITLE III:

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: Not classified as hazardous according to NOHSC criteria.

16. Other Information

NFPA 704: Hazard Rating System

Health - 1, Flammable - 0, Reactivity - 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DG does not warrant the completeness or accuracy of the information contained herein.