



SAFETY DATA SHEET

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product code **RMLES - MGL**
Product name **Roland Eco-Sol Compatible Light Magenta**
Product category **Ink Product**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Printing operations

Details of the supplier of the safety data sheet

UNITED STATES
LiqueColor, Inc.
2108 Research Park Blvd.
Norman, OK, 73069
Tel: 1-888-256-7446
www.liquecolor.com

2. HAZARDS IDENTIFICATION

Classification

| | |
|-----------------------------------|---------------------|
| Serious eye damage/eye irritation | Category 2 - (H319) |
|-----------------------------------|---------------------|

Label elements



Signal Word
Warning

Hazard Statements

H319 - Causes serious eye irritation

Hazards not otherwise classified (HNOC)

May be harmful if swallowed. May be harmful in contact with skin. Combustible liquid.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

| Component | CAS-No | Weight % | Trade Secret | Note |
|-----------------------------------------|-----------|----------|--------------|------|
| Diethylene glycol diethyl ether | 112-36-7 | 30 - 60 | * | |
| Gamma Butyrolactone | 96-48-0 | 10 - 30 | * | |
| Triethylene glycol monobutyl ether | 143-22-6 | 1 - 5 | * | |
| Dimethyl Succinate | 106-65-0 | 1 - 5 | * | |
| Dimethyl Glutarate | 1119-40-0 | 1 - 5 | * | |
| Ethylene glycol monobutyl ether acetate | 112-07-2 | 1 - 5 | * | |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

| | |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Advice | Show this safety data sheet to the doctor in attendance. |
| Eye Contact | Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists. |
| Skin Contact | Wash off immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation (redness, rash, blistering) develops, get medical attention. |
| Inhalation | Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately. |
| Ingestion | DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. |

Most important symptoms and effects, both acute and delayed

None under normal use conditions.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Foam. Carbon dioxide (CO₂). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep container closed when not in use. Keep out of the reach of children.

Incompatible Products Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure limits**

| Component | ACGIH TLV |
|-----------------------------------------------------|-------------|
| Ethylene glycol monobutyl ether acetate 112-07-2 | TWA: 20 ppm |

| Component | Ontario TWAEV |
|-----------------------------------------------------|---------------|
| Ethylene glycol monobutyl ether acetate 112-07-2 | TWA: 20 ppm |

Appropriate engineering controls

Engineering Measures Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/face Protection Wear safety glasses with side shields (or goggles). If splashes are likely to occur: Wear suitable face shield. Ensure that eyewash stations and safety showers are close to the workstation location.

Skin Protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact with

eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|-----------------------|----------------|-----------------------|--------------------------|
| Physical State | Liquid | Appearance | Colored Liquid |
| Odor | Characteristic | Odor Threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks - Method</u> |
|----------------------------------------|-------------------|-------------------------|
| pH | | No data available |
| Melting point/freezing point | | No data available |
| Boiling point/Boiling Range | > 149 °C / 300 °F | |
| Flash Point | 82 °C / 180 °F | Closed cup (Minimum) |
| Evaporation rate | | No data available |
| Flammability Limit in Air | | |
| Upper flammability limit | | No data available |
| Lower flammability limit | | No data available |
| Vapor Pressure | | No data available |
| Vapor Density | | No data available |
| Specific Gravity | 0.98 | |
| Water Solubility | | No data available |
| Solubility in other solvents | | No data available |
| Partition coefficient: n-octanol/water | | No data available |
| Autoignition Temperature | | No data available |
| Decomposition temperature | | No data available |
| Kinematic viscosity | | No data available |
| Dynamic viscosity | | No data available |

| | |
|-----------------------------|-------------------|
| Explosive Properties | No data available |
| Oxidizing Properties | No data available |

Other Information

| | |
|------------------------------------|------|
| Photochemically Reactive | No |
| Weight Per Gallon (lbs/gal) | 8.19 |

| VOC by weight % (less water) | VOC by volume % (less water) | VOC lbs/gal (less water) | VOC grams/liter (less water) |
|---------------------------------|---------------------------------|-----------------------------|---------------------------------|
| 95.86 | No information available | 7.85 | 941.16 |

10. STABILITY AND REACTIVITY

Reactivity

No information available.

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO₂). Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

| | |
|---------------------|------------------------------------|
| Inhalation | There is no data for this product. |
| Eye Contact | There is no data for this product. |
| Skin Contact | There is no data for this product. |
| Ingestion | There is no data for this product. |

| Component | Oral LD50 |
|-----------------------------------------------------|---------------------|
| Gamma Butyrolactone 96-48-0 | 1540 mg/kg (Rat) |
| Triethylene glycol monobutyl ether 143-22-6 | 5300 mg/kg (Rat) |
| Dimethyl Succinate 106-65-0 | >5000 mg/kg (Rat) |
| Dimethyl Glutarate 1119-40-0 | 8191 mg/kg (Rat) |
| Ethylene glycol monobutyl ether acetate 112-07-2 | 1600 mg/kg (Rat) |

| Component | LD50 Dermal |
|-----------------------------------------------------|------------------------|
| Triethylene glycol monobutyl ether 143-22-6 | 3480 mg/kg (Rabbit) |
| Dimethyl Succinate 106-65-0 | >5000 mg/kg (Rabbit) |
| Ethylene glycol monobutyl ether acetate 112-07-2 | 1480 mg/kg (Rabbit) |

| Component | Inhalation LC50 |
|---------------------------------|------------------------|
| Gamma Butyrolactone 96-48-0 | >2.68 mg/L (Rat) 4 h |
| Dimethyl Glutarate 1119-40-0 | >5.6 mg/L (Rat) 4 h |

Information on toxicological effects

Symptoms There is no data for this product.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|----------------------------------|------------------------------------------------------------------------------------------|
| Skin corrosion/irritation | There is no data for this product. |
| Eye damage/irritation | There is no data for this product. |
| Irritation | There is no data for this product. |
| Corrosivity | There is no data for this product. |
| Sensitisation | There is no data for this product. |
| Mutagenic Effects | There is no data for this product. |
| Reproductive Effects | There is no data for this product. |
| STOT - single exposure | There is no data for this product. |
| STOT - repeated exposure | There is no data for this product. |
| Chronic Toxicity | There is no data for this product. |
| Aspiration hazard | There is no data for this product. |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component | ACGIH |
|-----------------------------------------------------|-------|
| Ethylene glycol monobutyl ether acetate 112-07-2 | A3 |

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

| | |
|------------------------|----------------------|
| ATEmix (oral) | 5,359.00 mg/kg |
| ATEmix (dermal) | 33,658.00 mg/kg mg/l |

ATEmix (inhalation-dust/mist) 110.00 mg/l
 ATEmix (inhalation-vapor) 807.00 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

None known

0.04% of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Component | Algae/aquatic plants |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Gamma Butyrolactone 96-48-0 | 72h EC50 <i>Desmodesmus subspicatus</i> : 360 mg/L 96h EC50 <i>Desmodesmus subspicatus</i> : 79 mg/L |
| Triethylene glycol monobutyl ether 143-22-6 | 72h EC50 <i>Desmodesmus subspicatus</i> : 500 mg/L |
| Ethylene glycol monobutyl ether acetate 112-07-2 | 72h EC50 <i>Desmodesmus subspicatus</i> : >500 mg/L |

| Component | Fish |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gamma Butyrolactone 96-48-0 | 96h LC50 <i>Leuciscus idus</i> : 220 - 460 mg/L [static] |
| Triethylene glycol monobutyl ether 143-22-6 | 96h LC50 <i>Leuciscus idus</i> : 2200 - 4600 mg/L [static] 96h LC50 <i>Pimephales promelas</i> : 2400 mg/L 96h LC50 <i>Pimephales promelas</i> : 2400 mg/L [static] |
| Dimethyl Succinate 106-65-0 | 96h LC50 <i>Brachydanio rerio</i> : 50 - 100 mg/L [static] |
| Dimethyl Glutarate 1119-40-0 | 96h LC50 <i>Pimephales promelas</i> : 19.6 - 26.2 mg/L [static] |

| Component | Crustacea |
|------------------------------------------------|----------------------------------------------------|
| Gamma Butyrolactone 96-48-0 | 48h EC50 <i>Daphnia magna</i> Straus: >500 mg/L |
| Triethylene glycol monobutyl ether 143-22-6 | 48h EC50 <i>Daphnia magna</i> : 500 mg/L |
| Dimethyl Glutarate 1119-40-0 | 48h EC50 <i>Daphnia magna</i> : 122.1 - 163.5 mg/L |

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

| Component | Partition coefficient |
|-----------------------------------------------------|-----------------------|
| Gamma Butyrolactone 96-48-0 | -0.566 |
| Triethylene glycol monobutyl ether 143-22-6 | 0.51 |
| Dimethyl Succinate 106-65-0 | 0.19 |
| Ethylene glycol monobutyl ether acetate 112-07-2 | 1.51 |

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods

Contain and dispose of waste according to local regulations.

Contaminated Packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

DOT Not regulated
Proper Shipping Name Printing Ink

ICAO / IATA / IMDG / IMO Not Regulated
Proper Shipping Name Printing Ink

15. REGULATORY INFORMATION

International Inventories

All components are listed on the TSCA Inventory. For further information, please contact: Supplier (manufacturer/importer/downstream user/distributor).

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| Component | CAS-No | Weight % | SARA 313 - Threshold Values |
|-----------------------------------------|----------|----------|-----------------------------|
| Diethylene glycol diethyl ether | 112-36-7 | 30 - 60 | 1.0 |
| Triethylene glycol monobutyl ether | 143-22-6 | 1 - 5 | 1.0 |
| Ethylene glycol monobutyl ether acetate | 112-07-2 | 1 - 5 | 1.0 |

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPS) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

| Component | CAS-No | Weight % |
|-----------------------------------------|----------|----------|
| Diethylene glycol diethyl ether | 112-36-7 | 30 - 60 |
| Triethylene glycol monobutyl ether | 143-22-6 | 1 - 5 |
| Ethylene glycol monobutyl ether acetate | 112-07-2 | 1 - 5 |

U.S. State Regulations

| Component | New Jersey Right To Know |
|-----------------------------------------------------|--------------------------|
| Diethylene glycol diethyl ether 112-36-7 | X |
| Triethylene glycol monobutyl ether 143-22-6 | X |
| Ethylene glycol monobutyl ether acetate 112-07-2 | X |

| Component | Pennsylvania Right To Know |
|-----------------------------------------------------|----------------------------|
| Diethylene glycol diethyl ether 112-36-7 | X |
| Triethylene glycol monobutyl ether 143-22-6 | X |
| Ethylene glycol monobutyl ether acetate 112-07-2 | X |

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects

Canada

| Component | NPRI - National Pollutant Release Inventory |
|-----------|---------------------------------------------|
| | |

| | |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Diethylene glycol diethyl ether 112-36-7 | Part 4 Substance as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999 |
| Gamma Butyrolactone 96-48-0 | Part 4 Substance as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999 |
| Dimethyl Succinate 106-65-0 | Part 4 Substance as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999 |
| Dimethyl Glutarate 1119-40-0 | Part 4 Substance as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999 |
| Ethylene glycol monobutyl ether acetate 112-07-2 | Part 5, Other Groups and Mixtures Part 4 Substance as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999 |

16. OTHER INFORMATION

| | | | | |
|--------------|---------------|---------------------|-------------------|----------------------------|
| HMIS: | Health | Flammability | Reactivity | Personal Protection |
| | 3 * | 2 | 0 | X |

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---------|----------------------------------|
| TWA | TWA (time-weighted average) |
| STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value |

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen
Reasonably Anticipated to be a Human Carcinogen

OSHA: (Occupational Safety & Health Administration)

X - Present

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Disclaimer

The information provided in this Safety Data Sheet is 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.

End of MSDS