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

Product Name: Reactive Dye Ink Yellow
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt.</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>55-70</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>20-35</td>
<td>107-21-1</td>
</tr>
<tr>
<td>Dye</td>
<td>1-10</td>
<td>----</td>
</tr>
<tr>
<td>Glycerin</td>
<td>1-5</td>
<td>56-81-5</td>
</tr>
</tbody>
</table>

3. Hazards identification

**EMERGENCY OVERVIEW**

Colored liquid. Slight characteristic odor.
May be harmful if swallowed.

**POTENTIAL HEALTH EFFECTS**

Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Wash with water and mild soap for 15 minutes. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: No information.
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling
- Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
- Ventilation requirements: Use with adequate ventilation.
- Precautions: No information.
- Precautions for safe handling: No information.

Storage
- Storage Conditions: Keep container tightly closed. Store in a cool and dry place. Keep away from incompatible substances (See Section 10).
- Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Yellow

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>OSHA-PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV-TWA</td>
<td>TLV-STEL</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>None established</td>
<td>100mg/m3 [C]</td>
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<tr>
<td>Dye</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>Glycerin</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>

Personal Protective Equipment

Respiratory Protection: Not required under normal conditions.
Hand protection: Impervious gloves should be worn.
Eye/face protection: Splash goggles should be worn.
Skin Protection: Not required under normal conditions.

9. Physical and chemical properties

Product

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Form:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color:</td>
<td>Colored</td>
</tr>
<tr>
<td>Odor:</td>
<td>Slight characteristic odor</td>
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<tr>
<td>pH:</td>
<td>No data</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>No data</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>No data</td>
</tr>
<tr>
<td>Flash point:</td>
<td>None</td>
</tr>
<tr>
<td>Auto-ignition:</td>
<td>No data</td>
</tr>
<tr>
<td>Temperature:</td>
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<tr>
<td>Upper/lower flammability or explosive limits:</td>
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<td>Vapour pressure:</td>
<td>No data</td>
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<td>Vapour density:</td>
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<td>Evaporation rate:</td>
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<tr>
<td>Specific Gravity:</td>
<td>Unknown</td>
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<tr>
<td>Solubility:</td>
<td>Water: Completely soluble.</td>
</tr>
<tr>
<td>Partition coefficient:</td>
<td>No data</td>
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<td>n-octanol/water:</td>
<td>Decomposition</td>
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<tr>
<td>Decomposition:</td>
<td>No data</td>
</tr>
<tr>
<td>temperature:</td>
<td></td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Chemical stability: Stable.
Possibility of hazardous reactions: No Information.
Conditions to avoid: No Information.
Incompatible materials: Oxidizers
Hazardous decomposition products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Chlorine, Hydrogen chloride

11. Toxicological information

Product
Acute toxicity (oral): LD50: > 2000 mg/kg [rat]
Mutagenicity: Ames Test: Negative

Ingredient
Ethylene glycol
Acute toxicity (oral): LD50: 4700 mg/kg [rat], LD50: 7500 mg/kg [mouse]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Mild [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

Dye
Acute toxicity (oral): LD50: > 5000 mg/kg [rat]
Skin corrosion/irritation: None [rabbit]
Serious eye damage/irritation: None [rabbit]
Skin sensitization: Moderate 53% Maximization method [guinea pig]
Mutagenicity: Ames Test: Negative, Micronucleus test: Negative

Glycerin
Acute toxicity (oral): LD50: 12600 mg/kg [rat], LD50: 4090 mg/kg [mouse], LD50: 27000 mg/kg [rabbit], LD50: 7750 mg/kg [guinea pig]
Acute toxicity (inhalation): LC50: > 570 mg/m3/1h [rat]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Minimal [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

12. Ecological information

Product
No Data

Ingredient
Ethylene glycol
Ecotoxicity
Fish acute toxicity: 24hrLC50: >5000mg/l -modified ASTM D 1345 [Goldfish]
Daphnia acute toxicity: 48hrEC50: 10000mg/l [Daphnia magna]
Algae acute toxicity: 1g/l No effect [Scenedesmus subspicatus]
Persistence and degradability: Readily biodegradable
13. Disposal considerations

Disposal methods: When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.

14. Transport information

UN Class UN classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---

15. Regulatory information

OSHA Hazard Communication Standard, 29 CFR 1910.1200: This product is NOT considered hazardous under this standard.
CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) None.
SARA Title III (Superfund Amendments and Reauthorization Act) 302
Extreme Hazardous Substance: None.
311/312 Hazard Categories: None.
313 Reportable Ingredients: Ethylene glycol

16. Other information

HMIS Hazard Rating: Health: 1, Flammability: 1, Reactivity: 0

Disclaimer: The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Light Yellow

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

Product Name: Reactive Dye Ink Light Yellow
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

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<tr>
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</tr>
</thead>
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<tr>
<td>Water</td>
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<td>7732-18-5</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>20-35</td>
<td>107-21-1</td>
</tr>
<tr>
<td>Dye</td>
<td>1-10</td>
<td>----</td>
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<tr>
<td>Glycerin</td>
<td>1-5</td>
<td>56-81-5</td>
</tr>
</tbody>
</table>

3. Hazards identification

EMERGENCY OVERVIEW
Colored liquid. Slight characteristic odor. May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS
Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Wash with water and mild soap for 15 minutes. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: No information.
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling
Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
Ventilation requirements: Use with adequate ventilation.
Precautions: No information.
Precautions for safe handling: No information.

Storage
Storage Conditions: Keep container tightly closed. Store in a cool and dry place. Keep away from incompatible substances (See Section 10).
Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

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<th>Ingredient Name</th>
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<th>OSHA-PEL</th>
</tr>
</thead>
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<td></td>
<td>TLV-TWA</td>
<td>TLV-STEI</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>None establis hed</td>
<td>100mg/m³ [C]</td>
</tr>
<tr>
<td>Dye</td>
<td>None establis hed</td>
<td>None establis hed</td>
</tr>
<tr>
<td>Glycerin</td>
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<td>None establis hed</td>
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</table>
9. Physical and chemical properties

Product

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Liquid</th>
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<tbody>
<tr>
<td>Form:</td>
<td>Liquid</td>
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<tr>
<td>Color:</td>
<td>Colored</td>
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<td>Odor:</td>
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<td>pH:</td>
<td>No data.</td>
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<td>Melting point/freezing point:</td>
<td>No data.</td>
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<td>Initial boiling point and boiling range:</td>
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<td>Flash point:</td>
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<td>Auto-ignition temperature:</td>
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<td>Upper/lower flammability or explosive limits:</td>
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<tr>
<td>Vapour pressure:</td>
<td>No data.</td>
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<tr>
<td>Evaporation rate:</td>
<td>No data.</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>Unknown</td>
</tr>
<tr>
<td>Solubility:</td>
<td>water: Completely soluble.</td>
</tr>
<tr>
<td>Partition coefficient:</td>
<td>No data.</td>
</tr>
<tr>
<td>n-octanol/water:</td>
<td>No data.</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>No data.</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Chemical stability: Stable.
Possibility of hazardous reactions: No Information.
Conditions to avoid: No Information.
Incompatible materials: Oxidizers.
Hazardous decomposition products: Carbon monoxide, Carbon dioxide.

11. Toxicological information

Product

<table>
<thead>
<tr>
<th>Acute toxicity (oral):</th>
<th>LD50: &gt; 2000 mg/kg [rat]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin sensitization:</td>
<td>None (Data of similar product) 0% Maximization method</td>
</tr>
<tr>
<td>Mutagenicity:</td>
<td>Ames Test: Negative</td>
</tr>
</tbody>
</table>
### 12. Ecological information

**Product:** No Data  
**Ingredient:** Ethylene glycol

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Acute toxicity (oral):</th>
<th>Skin corrosion/irritation:</th>
<th>Serious eye damage/irritation:</th>
<th>Mutagenicity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin</td>
<td>LD50: 12600 mg/kg [rat], LD50: 4090 mg/kg [mouse], LD50: 27000 mg/kg [rabbit], LD50: 7750 mg/kg [guinea pig]</td>
<td>LC50: &gt;570 mg/m3/1h [rat]</td>
<td>Mild [rabbit]</td>
<td>Ames Test: Negative, Chromosomal aberration test: Negative</td>
</tr>
<tr>
<td>Dye</td>
<td>LD50: &gt;5000 mg/kg [rat]</td>
<td>None [rabbit]</td>
<td>None [rabbit]</td>
<td>Ames Test: Negative, Micronucleus test: Negative</td>
</tr>
</tbody>
</table>

**Ecotoxicity**  
- **Fish acute toxicity:** 24hr LC50: >5000 mg/l -modified ASTM D 1345 [Goldfish]  
- **Daphnia acute toxicity:** 48hr EC50: 10000 mg/l [Daphnia magna]  
- **Algae acute toxicity:** 1g/l No effect [Scenedesmus subspicatus]  
- **Persistence and degradability:** Readily biodegradable

**Glycerin**  
- **Fish acute toxicity:** 24hr LC50: >5000 mg/l [Goldfish]  
- **Daphnia acute toxicity:** 24hr EC50: >10000 mg/l [Daphnia magna]  
- **Persistence and degradability:** Readily biodegradable

### 13. Disposal considerations

**Disposal methods:** When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.
14. Transport information

UN Class UN classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---

15. Regulatory information

OSHA Hazard Communication Standard, 29CFR 1910.1200: This product is NOT considered hazardous under this standard.
CERCLA (Comprehensive Environmental Response, SARA Title III (Superfund Amendments and Reauthorization Act) 302 Extreme Hazardous Substance: None.
311/312 Hazard Categories: None.
313 Reportable Ingredients: Ethylene glycol

16. Other information

HMIS Hazard Rating: Health: 1, Flammability: 1, Reactivity: 0
Disclaimer: The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Magenta

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

Product Name: Reactive Dye Ink Magenta
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt. %</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
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3. Hazards identification

EMERGENCY OVERVIEW
Colored liquid. Slight characteristic odor. May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS
Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
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Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: No information.
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and clean up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling
Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
Ventilation requirements: Use with adequate ventilation.
Precautions: No information.
Precautions for safe handling: No information.

Storage
Storage Conditions: Keep container tightly closed. Store in a cool and dry place. Keep away from incompatible substances (See Section 10).
Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

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SAFETY DATA SHEET

Product Name: Reactive Dye Ink Magenta

9. Physical and chemical properties

<table>
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<tr>
<th>Property</th>
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</thead>
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</table>

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability:</td>
<td>Stable</td>
</tr>
<tr>
<td>Possibility of hazardous reactions:</td>
<td>No Information</td>
</tr>
<tr>
<td>Conditions to avoid:</td>
<td>No Information</td>
</tr>
<tr>
<td>Incompatible materials:</td>
<td>Oxidizers</td>
</tr>
<tr>
<td>Hazardous decomposition products:</td>
<td>Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Chlorine, Hydrogen chloride</td>
</tr>
</tbody>
</table>

11. Toxicological information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
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<tr>
<td>Acute toxicity (oral):</td>
<td>LD50: &gt; 2000 mg/kg (Data of similar product) [rat]</td>
</tr>
<tr>
<td>Skin sensitization:</td>
<td>None (Data of similar product) 0% Maximization method</td>
</tr>
<tr>
<td>Mutagenicity:</td>
<td>Ames Test: Negative</td>
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SAFETY DATA SHEET

Product Name: Reactive Dye Ink Magenta

Ingredient

Ethylene glycol
- Acute toxicity (oral): LD50: 4700 mg/kg [rat], LD50: 7500 mg/kg [mouse]
- Skin corrosion/irritation: Mild [rabbit]
- Serious eye damage/irritation: Mild [rabbit]
- Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

Dye
- Acute toxicity (oral): LD50: > 5000 mg/kg [rat]
- Acute toxicity (inhalation): LD50: > 100 mg/L/4h [rat]
- Skin corrosion/irritation: None [rabbit]
- Serious eye damage/irritation: None [rabbit]
- Mutagenicity: Ames Test: Negative

Glycerin
- Acute toxicity (oral): LD50: 12600 mg/kg [rat], LD50: 4090 mg/kg [mouse], LD50: 27000 mg/kg [rabbit], LD50: 7750 mg/kg [guinea pig]
- Acute toxicity (inhalation): LC50: > 570 mg/m3/1h [rat]
- Skin corrosion/irritation: Mild [rabbit]
- Serious eye damage/irritation: Minimal [rabbit]
- Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

12. Ecological information

Product
- No Data

Ingredient

Ethylene glycol
- Ecotoxicity
  - Fish acute toxicity: 24hrLC50: >5000mg/l -modified ASTM D 1345 [Goldfish]
  - Daphnia acute toxicity: 48hrEC50: 10000mg/l [Daphnia magna]
  - Algae acute toxicity: 1g/l No effect [Scenedesmus subspicatus]
- Persistence and degradability: Readily biodegradable

Glycerin
- Ecotoxicity
  - Fish acute toxicity: 24hrLC50: >5000mg/l [Goldfish]
  - Daphnia acute toxicity: 24hrEC50: >10000mg/l [Daphnia magna]
- Persistence and degradability: Readily biodegradable

13. Disposal considerations

Disposal methods: When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.
14. Transport information

UN Class: UN ---
classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---

15. Regulatory information

CERCLA (Comprehensive Environmental Response, SARA Title III (Superfund Amendments and Reauthorization Act) 302
Extreme Hazardous Substance: None.
311/312 Hazard Categories: None.
313 Reportable Ingredients: Ethylene glycol

16. Other information

HMIS Hazard Rating: Health: 1, Flammability: 1, Reactivity: 0

Disclaimer: The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Light Magenta

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

Product Name: Reactive Dye Ink Light Magenta
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

Substance/Mixture: Mixture

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt. %</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>55-70</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>20-35</td>
<td>107-21-1</td>
</tr>
<tr>
<td>Dye</td>
<td>1-10</td>
<td>----</td>
</tr>
<tr>
<td>Glycerin</td>
<td>1-5</td>
<td>56-81-5</td>
</tr>
</tbody>
</table>

3. Hazards identification

EMERGENCY OVERVIEW

Colored liquid. Slight characteristic odor. 
May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS

Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Wash with water and mild soap for 15 minutes. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: None
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling
Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
Ventilation requirements: Use with adequate ventilation.
Precautions: No information.
Precautions for safe handling: No information.

Storage
Storage Conditions: Keep container tightly closed. Store in a cool and dry place.
Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>OSHA-PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV-TWA</td>
<td>TLV- STEL</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>None establis hed</td>
<td>100mg/m³ [C]</td>
</tr>
<tr>
<td>Dye</td>
<td>None establis hed</td>
<td>None establis hed</td>
</tr>
<tr>
<td>Glycerin</td>
<td>None establis hed</td>
<td>None establis hed</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Light Magenta

9. Physical and chemical properties

Product

Physical state: Liquid
Form: Liquid
Color: Colored
Odor: slight characteristic odor
pH: No data.
Melting point/freezing point: No data.
Initial boiling point and boiling range: No data.
Flash point: None
Auto-ignition temperature: No data.
Upper/lower flammability or explosive limits: No data.
Vapour pressure: No data.
Vapour density: No data.
Evaporation rate: No data.
Specific Gravity: Unknown
Solubility: water: Completely soluble.
Partition coefficient: No data.
n-octanol/water:
Decomposition temperature: No data.

10. Stability and reactivity

Chemical stability: Stable.
Possibility of hazardous reactions: No Information.
Conditions to avoid: No Information.
Incompatible materials: Oxidizers
Hazardous decomposition products: Carbon monoxide, Carbon dioxide

11. Toxicological information

Product

Acute toxicity (oral): LD50: > 2000 mg/kg (Data of similar product)[rat]
Skin sensitization: None(Data of similar product) 0% Maximization method
Mutagenicity: Ames Test: Negative
SAFETY DATA SHEET

Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Light Magenta

Ingredient

Ethylene glycol

Acute toxicity (oral): LD50: 4700 mg/kg [rat], LD50: 7500 mg/kg [mouse]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Mild [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

Glycerin

Acute toxicity (oral): LD50: 12600 mg/kg [rat], LD50: 4090 mg/kg [mouse], LD50: 27000 mg/kg [rabbit], LD50: 7750 mg/kg [guinea pig]
Acute toxicity (inhalation): LC50: > 570 mg/m3/1h [rat]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Minimal [rabbit]
Mutagenicity: Ames Test: Negative

Dye

Acute toxicity (oral): LD50: > 5000 mg/kg [rat]
Acute toxicity (inhalation): LD50: > 100 mg/L/4h [rat]
Skin corrosion/irritation: None [rabbit]
Serious eye damage/irritation: None [rabbit]
Mutagenicity: Ames Test: Negative

12. Ecological information

Product

No Data

Ingredient

Ethylene glycol

Ecotoxicity

Fish acute toxicity: 24hrLC50: >5000mg/l - modified ASTM D 1345 [Goldfish]
Daphnia acute toxicity: 48hrEC50: 10000mg/l [Daphnia magna]
Algae acute toxicity: 1g/l No effect [Scenedesmus subspicatus]
Persistence and degradability: Readily biodegradable

Glycerin

Ecotoxicity

Fish acute toxicity: 24hrLC50: >5000mg/l [Goldfish]
Daphnia acute toxicity: 24hrEC50: >10000mg/l [Daphnia magna]
Persistence and degradability: Readily biodegradable

13. Disposal considerations

When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.
14. Transport information

UN Class UN classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---

15. Regulatory information

OSHA Hazard Communication Standard, 29 CFR 1910.1200: This product is NOT considered hazardous under this standard.
CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) 302
SARA Title III (Superfund Amendments and Reauthorization Act) 302 Extreme Hazardous Substance: None.
311/312 Hazard Categories: None.
313 Reportable Ingredients: Ethylene glycol

16. Other information

HMIS Hazard Rating: Health: 1, Flammability: 1, Reactivity: 0

Disclaimer The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
1. Identification of the substance/mixture and of the company/undertaking

Product Name: Reactive Dye Ink Cyan
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt. %</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>55-70</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>20-35</td>
<td>107-21-1</td>
</tr>
<tr>
<td>Dye</td>
<td>1-10</td>
<td>----</td>
</tr>
<tr>
<td>Glycerin</td>
<td>1-5</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Urea</td>
<td>0-2</td>
<td>57-13-6</td>
</tr>
</tbody>
</table>

3. Hazards identification

EMERGENCY OVERVIEW
Colored liquid. Slight characteristic odor. May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS
Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Wash with water and mild soap for 15 minutes. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: No information.
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling
Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
Ventilation requirements: Use with adequate ventilation.
Precautions: No information.
Precautions for safe handling: No information.
Storage
Storage Conditions: Keep container tightly closed. Store in a cool and dry place. Keep away from incompatible substances (See Section 10).
Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>OSHA-PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV-TWA</td>
<td>TLV-STEI</td>
</tr>
<tr>
<td>Ethylene glycol</td>
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<td>100mg/m3 [C]</td>
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<tr>
<td>Dye</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>Glycerin</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>Urea</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Cyan

Personal Protective Equipment
- Respiratory Protection: Not required under normal conditions.
- Hand protection: Impervious gloves should be worn.
- Eye/face protection: Splash goggles should be worn.
- Skin Protection: Not required under normal conditions.

9. Physical and chemical properties

Product
- Physical state: Liquid
- Form: Liquid
- Color: Colored
- Odor: slight characteristic odor
- pH: No data.
- Melting point/freezing point: No data.
- Initial boiling point and boiling range: No data.
- Flash point: None
- Auto-ignition temperature: No data.
- Upper/lower flammability or explosive limits: No data.
- Vapour pressure: No data.
- Vapour density: No data.
- Evaporation rate: No data.
- Specific Gravity: No data.
- Solubility: water: Completely soluble.
- Partition coefficient: No data.
- n-octanol/water: No data.
- Decomposition temperature: No data.

10. Stability and reactivity

Chemical stability: Stable.
- Possibility of hazardous reactions: No Information.
- Conditions to avoid: No Information.
- Incompatible materials: Oxidizers
- Hazardous decomposition products: Carbon monoxide, Carbon dioxide

11. Toxicological information

Product
- Acute toxicity (oral): LD50: > 2000 mg/kg (Data of similar product)[rat]
- Mutagenicity: Ames Test: Negative
12. Ecological information

Product Name: Reactive Dye Ink Cyan

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Acute toxicity (oral):</th>
<th>Skin corrosion/irritation:</th>
<th>Serious eye damage/irritation:</th>
<th>Mutagenicity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dye</td>
<td>LD50: &gt; 5000 mg/kg [rat]</td>
<td>None [rabbit]</td>
<td>None [rabbit]</td>
<td>Ames Test: Negative</td>
</tr>
<tr>
<td>Glycerin</td>
<td>LD50: 12600 mg/kg [rat], LD50: 4090 mg/kg [mouse], LD50: 27000 mg/kg [rabbit], LD50: 7750 mg/kg [guinea pig]</td>
<td>Minimal [rabbit]</td>
<td>Minimal [rabbit]</td>
<td>Ames Test: Negative, Chromosomal aberration test: Negative</td>
</tr>
<tr>
<td>Urea</td>
<td>LD50: 8471 mg/kg [rat], LD50: 14300 mg/kg [rat], LD50: 11000 mg/kg [mouse], LD50: 11500 mg/kg [mouse], LD50: 8200 mg/kg [rat]</td>
<td>None [rabbit]</td>
<td>None [rabbit]</td>
<td>Ames Test: Negative, Chromosomal aberration test: Negative</td>
</tr>
</tbody>
</table>

12. Ecological information

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Acute toxicity (oral):</th>
<th>Acute toxicity (dermal):</th>
<th>Mutagenicity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>24hrLC50: &gt;5000mg/l –modified ASTM D 1345 [Goldfish]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish acute toxicity:</td>
<td>24hrLC50: 10000mg/l [Daphnia magna]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daphnia acute toxicity:</td>
<td>1g/l No effect [Scenedesmus subspicatus]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae acute toxicity:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Persistence and degradability:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>Readily biodegradable</td>
</tr>
<tr>
<td>Glycerin</td>
<td>Readily biodegradable</td>
</tr>
<tr>
<td>Urea</td>
<td>Readily biodegradable</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Cyan

13. Disposal considerations

Disposal methods: When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.

14. Transport information

UN classification: 
UN number: 
Proper shipping name: 
Packing group: 

15. Regulatory information

OSHA Hazard Communication: This product is NOT considered hazardous under this standard.
Standard, 29CFR 1910.1200:
CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) 104
SARA Title III (Superfund Amendments and Reauthorization Act) 302
Extreme Hazardous Substance: None.
311/312 Hazard Categories:
313 Reportable Ingredients: Ethylene glycol

16. Other information

HMIS Hazard Rating: Health: 1, Flammability: 1, Reactivity: 0

Disclaimer: The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
1. Identification of the substance/mixture and of the company/undertaking

Product Name: Reactive Dye Ink Light Cyan
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration %</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td></td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td></td>
</tr>
<tr>
<td>Dye</td>
<td>56-81-5</td>
<td></td>
</tr>
</tbody>
</table>

3. Hazards identification

**EMERGENCY OVERVIEW**
Colored liquid. Slight characteristic odor.
May be harmful if swallowed.

**POTENTIAL HEALTH EFFECTS**
Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

**Eye Contact:** Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.

**Skin Contact:** Wash with water and mild soap for 15 minutes. If symptoms occur, get medical attention.

**Ingestion:** Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

**Inhalation:** No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Light Cyan

5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: No information.
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling
Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
Ventilation requirements: Use with adequate ventilation.
Precautions: No information.
Precautions for safe handling: No information.

Storage
Storage Conditions: Keep container tightly closed. Store in a cool and dry place. Keep away from incompatible substances (See Section 10).
Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

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<td>Ethylene glycol</td>
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<td>100mg/m3 [C]</td>
</tr>
<tr>
<td>Dye</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>Glycerin</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Light Cyan

9. Physical and chemical properties

Product

Physical state: Liquid
Form: Liquid
Color: Colored
Odor: slight characteristic odor
pH: No data.
Melting point/freezing point: No data.
Initial boiling point and boiling range: No data.
Flash point: None
Auto-ignition temperature: No data.
Upper/lower flammability or explosive limits: No data.
Vapour pressure: No data.
Vapour density: No data.
Evaporation rate: No data.
Specific Gravity: No data.
Solubility: water: Completely soluble.
Partition coefficient: No data.
n-octanol/water:
Decomposition temperature: No data.

10. Stability and reactivity

Chemical stability: Stable.
Possibility of hazardous reactions: No Information.
Conditions to avoid: No Information.
Incompatible materials: Oxidizers
Hazardous decomposition products: Carbon monoxide, Carbon dioxide

11. Toxicological information

Product

Acute toxicity (oral): LD50: > 2000 mg/kg (Data of similar product)[rat]
Mutagenicity: Ames Test: Negative
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Light Cyan

12. Ecological information

Product
No Data

Ingredient
Ethylene glycol
Acute toxicity (oral): LD50: 4700 mg/kg [rat], LD50: 7500 mg/kg [mouse]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: None [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

Glycerin
Acute toxicity (oral): LD50: 12600 mg/kg [rat], LD50: 4090 mg/kg [mouse], LD50: 27000 mg/kg [rabbit], LD50: 7750 mg/kg [guinea pig]
Acute toxicity (inhalation): LC50: > 570 mg/m3/1h [rat]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Minimal [rabbit]
Mutagenicity: Ames Test: Negative

Dye
Acute toxicity (oral): LD50: > 5000 mg/kg [rat]
Skin corrosion/irritation: None [rabbit]
Serious eye damage/irritation: None [rabbit]
Mutagenicity: None

Ecotoxicity
Fish acute toxicity: 24hrLC50: >5000mg/l -modified ASTM D 1345 [Goldfish]
Daphnia acute toxicity: 48hrEC50: 10000mg/l [Daphnia magna]
Algae acute toxicity: 1g/l No effect [Scenedesmus subspicatus]
Persistence and degradability: Readily biodegradable

Glycerin
Ecotoxicity
Fish acute toxicity: 24hrLC50: >5000mg/l [Goldfish]
Daphnia acute toxicity: 24hrEC50: >10000mg/l [Daphnia magna]
Persistence and degradability: Readily biodegradable

13. Disposal considerations

Disposal methods: When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.

14. Transport information

UN Class
UN classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---
15. Regulatory information

OSHA Hazard Communication Standard, 29 CFR 1910.1200: This product is NOT considered hazardous under this standard.
CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) 302
SARA Title III (Superfund Amendments and Reauthorization Act) 311/312 Hazard Categories: None.
313 Reportable Ingredients: Ethylene glycol: Reportable Quantities 5000 lb (2270 kg)

16. Other information

HMIS Hazard Rating: Health: 1, Flammability: 1, Reactivity: 0
Disclaimer: The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Black

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

Product Name: Reactive Dye Ink Black
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

Substance/Mixture: Mixture

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt. %</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
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<td>Dye</td>
<td>1-10</td>
<td>---</td>
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<tr>
<td>Glycerin</td>
<td>1-5</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Urea</td>
<td>0-2</td>
<td>57-13-6</td>
</tr>
</tbody>
</table>

3. Hazards identification

EMERGENCY OVERVIEW
Colored liquid. Slight characteristic odor. May be harmful if swallowed. Repeated contact may cause allergic skin reaction.

POTENTIAL HEALTH EFFECTS
Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: Repeated contact may cause allergic skin reaction.

None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Immediately wash with water for 15 minutes. Remove contaminated clothing. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: No information.
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
Ventilation requirements: Use with adequate ventilation.
Precautions: No information.
Precautions for safe handling: Do not breathe dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. The routine use of neutral or weak acid type of hand cleaner and regular cleaning of working surfaces, gloves, etc. will help minimize the possibility of a skin reaction.

Storage Storage Conditions: Keep container tightly closed. Store in a cool and dry place. Keep away from incompatible substances (See Section 10).
Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Black

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>OSHA–PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV–TWA</td>
<td>TLV–STEL</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>None established</td>
<td>100mg/m³</td>
</tr>
<tr>
<td>Dye</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>Glycerin</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>Urea</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>

Personal Protective Equipment

- Respiratory Protection: Not required under normal conditions.
- Hand protection: Impervious gloves should be worn.
- Eye/face protection: Splash goggles should be worn.
- Skin Protection: Not required under normal conditions.

9. Physical and chemical properties

Product

- Physical state: Liquid
- Form: Liquid
- Color: Colored
- Odor: Slight characteristic odor
- pH: No data.
- Melting point/freezing point: No data.
- Initial boiling point and boiling range: No data.
- Flash point: None
- Auto-ignition: No data.
- Decomposition temperature: No data.
- Upper/lower flammability or explosive limits: No data.
- Vapour pressure: No data.
- Vapour density: No data.
- Evaporation rate: No data.
- Specific Gravity: No data.
- Solubility: Water: Completely soluble.
- Partition coefficient: No data.
- n-octanol/water: No data.

10. Stability and reactivity

- Chemical stability: Stable.
- Possibility of hazardous reactions: No Information.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Black

Condition to avoid: No Information.
Incompatible materials: Oxidizers
Hazardous decomposition products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Chlorine, Hydrogen chloride

11. Toxicological information

Product

Acute toxicity (oral): LD50: > 2000 mg/kg (Data of similar product) [rat]
Skin sensitization: Positive (Data of similar product) LLNA [mouse]
Mutagenicity: Ames Test: Negative

Ingredient

Ethylene glycol

Acute toxicity (oral): LD50: 4700 mg/kg [rat], LD50: 7500 mg/kg [mouse]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Mild [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

Dye

Acute toxicity (oral): LD50: > 5000 mg/kg [rat]
Skin corrosion/irritation: None [rabbit]
Serious eye damage/irritation: None [rabbit]
Skin sensitization: Mild 20% Maximization method [guinea pig]
Mutagenicity: Ames Test: Negative

Glycerin

Acute toxicity (oral): LD50: 12600 mg/kg [rat], LD50: 4090 mg/kg [mouse], LD50: 27000 mg/kg [rabbit], LD50: 7750 mg/kg [guinea pig]
Acute toxicity (inhalation): LC50: > 570 mg/m3/1h [rat]
Skin corrosion/irritation: Minimal [rabbit]
Serious eye damage/irritation: None [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

Urea

Acute toxicity (oral): LD50: 8471 mg/kg [rat], LD50: 14300 mg/kg [rat], LD50: 11000 mg/kg [mouse], LD50: 11500 mg/kg [mouse]
Acute toxicity (dermal): LD50: 8200 mg/kg [rat]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

12. Ecological information

Product

No Data

Ingredient

Ethylene glycol

Ecotoxicity
Fish acute toxicity: 24hrLC50: >5000mg/l -modified ASTM D 1345 [Goldfish]
Daphnia acute toxicity: 48hrEC50: 10000mg/l [Daphnia magna]
Algae acute toxicity: 1g/l No effect [Scenedesmus subspicatus]
Persistence and degradability: Readily biodegradable
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Black

13. Disposal considerations

Disposal methods:
When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.

14. Transport information

UN Class UN classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---

15. Regulatory information

OSHA Hazard Communication Standard, 29CFR 1910.1200: This product is NOT considered hazardous under this standard.
CERCLA(Comprehensive Environmental Response SARA Title III (Superfund Amendments and Reauthorization Act) 302 Extreme Hazardous Substance: 311/312 Hazard Categories: 313 Reportable Ingredients: Ethylene glycol

16. Other information

HMIS Hazard Rating: Health: 1, Flammability: 1, Reactivity: 0

Disclaimer: The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Light Black

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

Product Name: Reactive Dye Ink Light Black
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentrationwt. %</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>55-70</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>20-35</td>
<td>107-21-1</td>
</tr>
<tr>
<td>Dye</td>
<td>1-10</td>
<td>----</td>
</tr>
<tr>
<td>Glycerin</td>
<td>1-5</td>
<td>56-81-5</td>
</tr>
</tbody>
</table>

3. Hazards identification

EMERGENCY OVERVIEW
Colored liquid. Slight characteristic odor.
May be harmful if swallowed.
Repeated contact may cause allergic skin reaction.

POTENTIAL HEALTH EFFECTS
Eye Effects : May cause eye and mucous membrane irritation.
Skin Effects : May cause slight skin irritation.
Ingestion Effects : May be harmful if swallowed.
Inhalation Effects : No identified health effects.
Chronic Effects / Carcinogenicity : Repeated contact may cause allergic skin reaction.

None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Immediately wash with water for 15 minutes. Remove contaminated clothing. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.

Extinguishing Media to Avoid: No information.

Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).

Environmental precautions: No information.

Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling

Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Ventilation requirements: Use with adequate ventilation.

Precautions: No information.

Precautions for safe handling: Do not breathe dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. The routine use of neutral or weak acid type of hand cleaner and regular cleaning of working surfaces, gloves, etc. will help minimize the possibility of a skin reaction.

Storage

Storage Conditions: Keep container tightly closed. Store in a cool and dry place. Keep away from incompatible substances (See Section 10).

Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>OSHA-PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV-TWA</td>
<td>TLV-STEL</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>None established</td>
<td>100mg/m³ [C]</td>
</tr>
<tr>
<td>Dye</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>Glycerin</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>
Personal Protective Equipment

Respiratory Protection: Not required under normal conditions.
Hand protection: Impervious gloves should be worn.
Eye/face protection: Splash goggles should be worn.
Skin Protection: Not required under normal conditions.

9. Physical and chemical properties

Product

Physical state: Liquid
Form: Liquid
Color: Colored
Odor: Slight characteristic odor
pH: No data.
Melting point/freezing point: No data.
Initial boiling point and boiling range: No data.
Flash point: None
Auto-ignition temperature: No data.
Upper/lower flammability or explosive limits: No data.
Vapour pressure: No data.
Vapour density: No data.
Evaporation rate: No data.
Specific Gravity: No data.
Solubility: water: Completely soluble.
Partition coefficient: No data.
n-octanol/water: No data.
Decomposition temperature: No data.

10. Stability and reactivity

Chemical stability: Stable.
Possibility of hazardous reactions: No Information.
Conditions to avoid: No Information.
Incompatible materials: Oxidizers
Hazardous decomposition products: Carbon monoxide, Carbon dioxide

11. Toxicological information

Product

Acute toxicity (oral): LD50: > 2000 mg/kg (Data of similar product) [rat]
Skin sensitization: Positive (Data of similar product) LLNA [mouse]
Mutagenicity: Ames Test: Negative
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Light Black

12. Ecological information

Product

Ingredient

Ethylene glycol

Ecotoxicity

Fish acute toxicity: 24hrLC50: >5000mg/l -modified ASTM D 1345[Goldfish]
Daphnia acute toxicity: 48hrEC50: 10000mg/l[Daphnia magna]
Persistence and degradability: Readily biodegradable

Glycerin

Ecotoxicity

Fish acute toxicity: 24hrLC50: >5000mg/l[Goldfish]
Daphnia acute toxicity: 48hrEC50: >10000mg/l[Daphnia magna]
Persistence and degradability: Readily biodegradable

13. Disposal considerations

Disposal methods: When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.
14. Transport information

UN Class: UN
classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---

15. Regulatory information

OSHA Hazard Communication Standard, 29CFR 1910.1200: This product is NOT considered hazardous under this standard.
CERCLA (Comprehensive Environmental Response, Compensation and Liability Act): Ethylene glycol: Reportable Quantities 5000 lb (2270 kg)
SARA Title III (Superfund Amendments and Reauthorization Act) 302
Extreme Hazardous Substance: None.
311/312 Hazard Categories:
313 Reportable Ingredients: Ethylene glycol

16. Other information

HMIS Hazard Rating: Health: 1, Flammability: 1, Reactivity: 0

Disclaimer: The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Gray

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

Product Name: Reactive Dye Ink Gray
Identification of the supplier:
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt. %</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>35-45</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>20-30</td>
<td>107-21-1</td>
</tr>
<tr>
<td>Organic solvent (1)</td>
<td>10-20</td>
<td>---</td>
</tr>
<tr>
<td>Dye</td>
<td>5-20</td>
<td>---</td>
</tr>
<tr>
<td>Organic solvent (2)</td>
<td>1-10</td>
<td>---</td>
</tr>
</tbody>
</table>

3. Hazards identification

EMERGENCY OVERVIEW
Colored liquid. Slight characteristic odor.
May be harmful if swallowed.
Repeated contact may cause allergic skin reaction.

POTENTIAL HEALTH EFFECTS

Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: Repeated contact may cause allergic skin reaction.
None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Immediately wash with water for 15 minutes. Remove contaminated clothing. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: No information.
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling

Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
Ventilation requirements: Use with adequate ventilation.
Precautions: No information.
Precautions for safe handling: Do not breathe dust/fume/gas/mist/vapours/spray.
Do not eat, drink or smoke when using this product. The routine use of neutral or weak acid type of hand cleaner and regular cleaning of working surfaces, gloves, etc. will help minimize the possibility of a skin reaction.

Storage

Storage Conditions: Keep container tightly closed. Store in a cool and dry place.
Safety adequate container materials: Keep away from incompatible substances (See Section 10).

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.
Product Name: Reactive Dye Ink Gray

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>OSHA-PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>None establised</td>
<td>100mg/m³ [C]; None establised</td>
</tr>
<tr>
<td>Organic solvent (1)</td>
<td>None establised</td>
<td>None establised</td>
</tr>
<tr>
<td>Dye</td>
<td>None establised</td>
<td>None establised</td>
</tr>
<tr>
<td>Organic solvent (2)</td>
<td>None establised</td>
<td>15mg/m³ (total dust); None establised</td>
</tr>
</tbody>
</table>

Personal Protective Equipment

Respiratory Protection: Not required under normal conditions.
Hand protection: Impervious gloves should be worn.
Eye/face protection: Splash goggles should be worn.
Skin Protection: Not required under normal conditions.

9. Physical and chemical properties

Product

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form:</td>
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</tr>
<tr>
<td>Color:</td>
<td>Colored</td>
</tr>
<tr>
<td>Odor:</td>
<td>Slight characteristic odor</td>
</tr>
<tr>
<td>pH:</td>
<td>No data.</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>No data.</td>
</tr>
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<td>Initial boiling point and boiling range:</td>
<td>No data.</td>
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<td>Flash point:</td>
<td>None</td>
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<td>Auto-ignition temperature:</td>
<td>No data.</td>
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<td>Upper/lower flammability or explosive limits:</td>
<td>No data.</td>
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<td>Vapour pressure:</td>
<td>No data.</td>
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<td>Vapour density:</td>
<td>No data.</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>No data.</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>No data.</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Water: Completely soluble.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water:</td>
<td>No data.</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>No data.</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Chemical stability: Stable.
Possibility of hazardous reactions: No Information.
Conditions to avoid: No Information.
Incompatible materials: Oxidizers
Hazardous decomposition Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Chlorine,
products: Hydrogen chloride

11. Toxicological information

Product

Acute toxicity (oral): LD50: > 2000 mg/kg (Data of similar product) [rat]
Skin sensitization: Positive (Data of similar product) LLNA [mouse]
Mutagenicity: Ames Test: Negative

Ingredient

Ethylene glycol
Acute toxicity (oral): LD50: 4700 mg/kg [rat], LD50: 7500 mg/kg [mouse]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Mild [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

Organic solvent (1)
Acute toxicity (oral): LD50: 18500 mg/kg [rat], LD50: 20000 mg/kg [rat], LD50: 22000 mg/kg [mouse], LD50: 18350 mg/kg [guinea pig]
Acute toxicity (dermal): LD50: 20800 mg/kg [rabbit]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Minimal [rabbit]
Skin sensitization: None 0% Maximization method [guinea pig]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative, Micronucleus test: Negative

Dye
Acute toxicity (oral): LD50: > 5000 mg/kg [rat]
Skin corrosion/irritation: None [rabbit]
Serious eye damage/irritation: None [rabbit]
Skin sensitization: Mild 20% Maximization method [guinea pig]
Mutagenicity: Ames Test: Negative

Organic solvent (2)
Acute toxicity (oral): LD50: 12600 mg/kg [rat], LD50: 4090 mg/kg [mouse], LD50: 27000 mg/kg [rabbit], LD50: 7750 mg/kg [guinea pig]
Acute toxicity (inhalation): LC50: > 570 mg/m^3/1h [rat]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Minimal [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative
12. Ecological information

Product
No Data

Ingredient
Ethylene glycol

Ecotoxicity
Fish acute toxicity: 24hrLC50: >5000mg/l modified ASTM D 1345 [Goldfish]
Daphnia acute toxicity: 48hr EC50: 10000mg/l [Daphnia magna]
Algae acute toxicity: 1g/l No effect [Scenedesmus subspicatus]

Persistence and degradability: Readily biodegradable

Organic solvent (1)

Ecotoxicity
Fish acute toxicity: 96hr LC50: >100mg/l [Oryzias latipes]
Daphnia acute toxicity: 48hr EC50: >1000mg/l [Daphnia magna]
Algae acute toxicity: 48hr EC50: >1000mg/l [Scenedesmus capricornutum]

Persistence and degradability: Readily biodegradable

Organic solvent (2)

Ecotoxicity
Fish acute toxicity: 24hr LC50: >5000mg/l [Goldfish]
Daphnia acute toxicity: 24hr EC50: >10000mg/l [Daphnia magna]

Persistence and degradability: Readily biodegradable

13. Disposal considerations

Disposal methods: When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.

14. Transport information

UN Class
UN classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Gray

15. Regulatory information

OSHA Hazard Communication Standard, 29 CFR 1910.1200: This product is NOT considered hazardous under this standard.
CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) 302
SARA Title III (Superfund Amendments and Reauthorization Act) 302
Extreme Hazardous Substance: None.
311/312 Hazard Categories: None.
313 Reportable Ingredients: Ethylene glycol

Ethylene glycol: Reportable Quantities 5000 lb (2270 kg)

16. Other information

HMIS Hazard Rating: Health: 1, Flammability: 1, Reactivity: 0

Disclaimer: The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Blue

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

Product Name: Reactive Dye Ink Blue
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt. %</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>45-55</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>30-40</td>
<td>107-21-1</td>
</tr>
<tr>
<td>Dye</td>
<td>5-15</td>
<td>----</td>
</tr>
<tr>
<td>Glycerin</td>
<td>1-5</td>
<td>56-81-5</td>
</tr>
</tbody>
</table>

3. Hazards identification

EMERGENCY OVERVIEW
Colored liquid. Slight characteristic odor. May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS
Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Wash with water and mild soap for 15 minutes. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Blue

5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: No information.
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling
Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
Ventilation requirements: Use with adequate ventilation.
Precautions: No information.
Precautions for safe handling: No information.
Storage
Storage Conditions: Keep container tightly closed. Store in a cool and dry place. Keep away from incompatible substances (See Section 10).
Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>OSHA-PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>TLV-TWA 100mg/m³</td>
<td>TLV-STEL None established</td>
</tr>
<tr>
<td>Dye</td>
<td>TLV-TWA None established</td>
<td>TLV-STEL None established</td>
</tr>
<tr>
<td>Glycerin</td>
<td>TLV-TWA 15mg/m³ (total dust)</td>
<td>TLV-STEL None established</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Blue

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Form:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color:</td>
<td>Colored</td>
</tr>
<tr>
<td>Odor:</td>
<td>Slight characteristic odor</td>
</tr>
<tr>
<td>pH:</td>
<td>No data</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>No data</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>No data</td>
</tr>
<tr>
<td>Flash point:</td>
<td>No data</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>No data</td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>No data</td>
</tr>
<tr>
<td>Vapour density:</td>
<td>No data</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>No data</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>No data</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Water: Completely soluble</td>
</tr>
<tr>
<td>Partition coefficient:</td>
<td>No data</td>
</tr>
<tr>
<td>n-octanol/water:</td>
<td>No data</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>No data</td>
</tr>
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</table>

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability:</td>
<td>Stable</td>
</tr>
<tr>
<td>Possibility of hazardous reactions:</td>
<td>No Information</td>
</tr>
<tr>
<td>Conditions to avoid:</td>
<td>No Information</td>
</tr>
<tr>
<td>Incompatible materials:</td>
<td>Oxidizers</td>
</tr>
<tr>
<td>Hazardous decomposition products:</td>
<td>Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Chlorine, Hydrogen chloride</td>
</tr>
</tbody>
</table>

11. Toxicological information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral):</td>
<td>LD50: &gt; 2000 mg/kg[rat]</td>
</tr>
<tr>
<td>Skin sensitization:</td>
<td>None(Data of similar product) 0% Maximization method</td>
</tr>
<tr>
<td>Mutagenicity:</td>
<td>Ames Test:Negative</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Blue

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Acute toxicity (oral):</th>
<th>Skin corrosion/irritation:</th>
<th>Serious eye damage/irritation:</th>
<th>Mutagenicity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dye</td>
<td>LD50: &gt; 5000 mg/kg [rat]</td>
<td>None [rabbit]</td>
<td>None [rabbit]</td>
<td></td>
</tr>
<tr>
<td>Glycerin</td>
<td>LD50: 12600 mg/kg [rat], LD50: 4090 mg/kg [mouse], LD50: 27000 mg/kg [rabbit], LD50: 7750 mg/kg [guinea pig]</td>
<td>Mild [rabbit]</td>
<td>Minimal [rabbit]</td>
<td>Ames Test: Negative, Chromosomal aberration test: Negative</td>
</tr>
</tbody>
</table>

12. Ecological information

Product

Ingredient

Ethylene glycol

Ecotoxicity

Fish acute toxicity: 24hrLC50: >5000mg/l -modified ASTM D 1345 [Goldfish]
Daphnia acute toxicity: 48hrEC50: 10000mg/l [Daphnia magna]
Algae acute toxicity: 1g/l No effect [Scenedesmus subspicatus]
Persistence and degradability: Readily biodegradable

Glycerin

Ecotoxicity

Fish acute toxicity: 24hrLC50: >5000mg/l [Goldfish]
Daphnia acute toxicity: 24hrEC50: >10000mg/l [Daphnia magna]
Persistence and degradability: Readily biodegradable

13. Disposal considerations

Disposal methods: When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.
14. Transport information

UN Class  UN classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---

15. Regulatory information

OSHA Hazard Communication Standard, 29 CFR 1910.1200: This product is NOT considered hazardous under this standard.
CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act): None.
SARA Title III (Superfund Amendments and Reauthorization Act) 302 Extreme Hazardous Substance: None.
311/312 Hazard Categories: None.
313 Reportable Ingredients: Ethylene glycol

16. Other information

HMIS Hazard Rating: Health: 1, Flammability: 1, Reactivity: 0

Disclaimer: The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Orange

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

Product Name: Reactive Dye Ink Orange
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt. %</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>45-55</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>30-40</td>
<td>107-21-1</td>
</tr>
<tr>
<td>Dye</td>
<td>5-15</td>
<td>---</td>
</tr>
<tr>
<td>Glycerin</td>
<td>1-5</td>
<td>56-81-5</td>
</tr>
</tbody>
</table>

3. Hazards identification

EMERGENCY OVERVIEW
Colored liquid. Slight characteristic odor.
May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS
Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Wash with water and mild soap for 15 minutes. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.

Extinguishing Media to Avoid: No information.

Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).

Environmental precautions: No information.

Methods and materials for containment and cleaning up:

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling

Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.

Ventilation requirements: Use with adequate ventilation.

Precautions: No information.

Precautions for safe handling: No information.

Storage

Storage Conditions: Keep container tightly closed. Store in a cool and dry place.

Safety adequate container materials: Keep away from incompatible substances (See Section 10).

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>OSHA-PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>None established</td>
<td>100mg/m$^3$ [C]</td>
</tr>
<tr>
<td>Dye</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>Glycerin</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Date Prepared: 2014/01/06
Product Name: Reactive Dye Ink Orange

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colored</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight characteristic odor</td>
</tr>
<tr>
<td>pH</td>
<td>No data.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data.</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No data.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: Completely soluble.</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data.</td>
</tr>
<tr>
<td>n-octanol/water</td>
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</tr>
<tr>
<td>Decomposition decomposition</td>
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</tr>
<tr>
<td>temperature</td>
<td></td>
</tr>
</tbody>
</table>

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Stability and reactivity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability</td>
<td>Stable.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>No Information.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>No Information.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Oxidizers</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Chlorine, Hydrogen chloride</td>
</tr>
</tbody>
</table>

11. Toxicological information

<table>
<thead>
<tr>
<th>Toxicological information</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>LD50: &gt; 2000 mg/kg (Data of similar product) [rat]</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Ames Test: Negative</td>
</tr>
</tbody>
</table>
12. Ecological information

Product: No Data

Ingredient: Ethylene glycol

Ecotoxicity
- Fish acute toxicity: 24hrLC50 >5000mg/l -modified ASTM D 1345[Goldfish]
- Daphnia acute toxicity: 48hrEC50: 10000mg/l[Daphnia magna]
- Algae acute toxicity: 1g/l No effect [Scenedesmus subspicatus]

Persistence and degradability: Readily biodegradable

Ingredient: Glycerin

Ecotoxicity
- Fish acute toxicity: 24hrLC50 >5000mg/l[Goldfish]
- Daphnia acute toxicity: 24hrEC50>10000mg/l[Daphnia magna]

Persistence and degradability: Readily biodegradable

13. Disposal considerations

Disposal methods: When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.

14. Transport information

UN Class: UN classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---
15. Regulatory information

OSHA Hazard Communication Standard, 29CFR 1910.1200: This product is NOT considered hazardous under this standard.
CERCLA (Comprehensive Environmental Response, Compensation and Liability Act, 42 USC 9601 et seq.) Ethylene glycol: Reportable Quantities 5000 lb(2270 kg)
SARA Title III (Superfund Amendments and Reauthorization Act) 302 Extreme Hazardous Substance: None.
311/312 Hazard Categories: None.
313 Reportable Ingredients: Ethylene glycol

16. Other information

HMIS Hazard Rating: Health : 1, Flammability : 1, Reactivity : 0
Disclaimer The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Extra Magenta

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

Product Name: Reactive Dye Ink Extra Magenta
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/Mixture: Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredients and Concentration</td>
</tr>
<tr>
<td>Ingredient Name</td>
</tr>
<tr>
<td>Water</td>
</tr>
<tr>
<td>Ethylene glycol</td>
</tr>
<tr>
<td>Dye</td>
</tr>
<tr>
<td>Glycerin</td>
</tr>
</tbody>
</table>

3. Hazards identification

EMERGENCY OVERVIEW
Colored liquid. Slight characteristic odor.
May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS
Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Wash with water and mild soap for 15 minutes. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: No information.
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling
Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
Ventilation requirements: Use with adequate ventilation.
Precautions: No information.
Precautions for safe handling: No information.

Storage
Storage Conditions: Keep container tightly closed. Store in a cool and dry place. Keep away from incompatible substances (See Section 10).
Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

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<th>ACGIH</th>
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<tr>
<td></td>
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<td>TLV-STEEL</td>
</tr>
<tr>
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<td>None established</td>
<td>100mg/m³ [C]</td>
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<tr>
<td>Dye</td>
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<td>None established</td>
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<tr>
<td>Glycerin</td>
<td>None established</td>
<td>None established</td>
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</table>
SAFETY DATA SHEET

MSDS: 2013077120US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Extra Magenta

9. Physical and chemical properties

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<td>Decomposition temperature</td>
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</table>

11. Toxicological information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>LD50: &gt; 2000 mg/kg (Data of similar product)[rat]</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Ames Test: Negative</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Extra Magenta

Ingredient

Ethylene glycol

Acute toxicity (oral): LD50: 4700 mg/kg [rat], LD50: 7500 mg/kg [mouse]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Mild [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

Dye

Acute toxicity (oral): LD50: > 5000 mg/kg [rat]
Skin corrosion/irritation: None [rabbit]
Serious eye damage/irritation: None [rabbit]
Skin sensitization: None [guinea pig]
Mutagenicity: Ames Test: Negative

Glycerin

Acute toxicity (oral): LD50: 12600 mg/kg [rat], LD50: 4090 mg/kg [mouse], LD50: 27000 mg/kg [rabbit], LD50: 7750 mg/kg [guinea pig]
Acute toxicity (inhalation): LC50: > 570 mg/m3/1h [rat]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Minimal [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

12. Ecological information

Product

No Data

Ingredient

Ethylene glycol

Ecotoxicity

Fish acute toxicity: 24hrLC50: >5000mg/l -modified ASTM D 1345 [Goldfish]
Daphnia acute toxicity: 48hrEC50: 10000mg/l [Daphnia magna]
Algae acute toxicity: 1g/l No effect [Scenedesmus subspicatus]
Persistence and degradability: Readily biodegradable

Glycerin

Ecotoxicity

Fish acute toxicity: 24hrLC50: >5000mg/l [Goldfish]
Daphnia acute toxicity: 24hrEC50: >10000mg/l [Daphnia magna]
Persistence and degradability: Readily biodegradable

13. Disposal considerations

Disposal methods: When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.

14. Transport information

UN Class

UN classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---
15. Regulatory information

OSHA Hazard Communication
This product is NOT considered hazardous under this standard.

CERCLA (Comprehensive Environmental Response
Ethylene glycol: Reportable Quantities 5000 lb (2270 kg)

SARA Title III (Superfund Amendments and
Reauthorization Act) 302
None.

Extreme Hazardous Substance:
311/312 Hazard Categories:
None.

313 Reportable Ingredients:
Ethylene glycol

Disclaimer
The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.

16. Other information

HMIS Hazard Rating:
Health: 1, Flammability: 1, Reactivity: 0

Disclaimer
The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Pink

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

Product Name: Reactive Dye Ink Pink
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

Substance/Mixture: Mixture

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt.</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>35-45</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>20-30</td>
<td>107-21-1</td>
</tr>
<tr>
<td>Organic solvent (1)</td>
<td>10-20</td>
<td>---</td>
</tr>
<tr>
<td>Dye</td>
<td>5-20</td>
<td>---</td>
</tr>
<tr>
<td>Organic solvent (2)</td>
<td>1-10</td>
<td>---</td>
</tr>
</tbody>
</table>

3. Hazards identification

EMERGENCY OVERVIEW

Colored liquid. Slight characteristic odor. May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS

Eye Effects: May cause eye and mucous membrane irritation.
Skin Effects: May cause slight skin irritation.
Ingestion Effects: May be harmful if swallowed.
Inhalation Effects: No identified health effects.
Chronic Effects / Carcinogenicity: None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Wash with water and mild soap for 15 minutes. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: None
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling

Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
Ventilation requirements: Use with adequate ventilation.
Precautions: No information.
Precautions for safe handling: No information.

Storage

Storage Conditions: Keep container tightly closed. Store in a cool and dry place.
Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>OSHA-PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV-TWA</td>
<td>TLV-STEL</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>None</td>
<td>100mg/m3]</td>
</tr>
<tr>
<td>Organic solvent (1)</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Dye</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Organic solvent (2)</td>
<td>None</td>
<td>15mg/m3] (total dust)</td>
</tr>
</tbody>
</table>


SAFETY DATA SHEET

Product Name: Reactive Dye Ink Pink

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colored</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight characteristic odor</td>
</tr>
<tr>
<td>pH</td>
<td>No data.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data.</td>
</tr>
<tr>
<td>Flash point</td>
<td>None</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No data.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: Completely soluble.</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data.</td>
</tr>
<tr>
<td>n-octanol/water</td>
<td>No data.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data.</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability</td>
<td>Stable</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>No Information</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>No Information</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Oxidizers</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Chlorine, Hydrogen chloride</td>
</tr>
</tbody>
</table>

11. Toxicological information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>LD50: &gt; 2000 mg/kg (Data of similar product)[rat]</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>None (Data of similar product) 0% Maximization method</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Ames Test: Negative</td>
</tr>
</tbody>
</table>
12. Ecological information

Product Name: Reactive Dye Ink Pink

Ingredient
Ethylene glycol

Acute toxicity (oral): LD50: 4700 mg/kg [rat], LD50: 7500 mg/kg [mouse]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Mild [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

Organic solvent (1)

Acute toxicity (oral): LD50: 18500 mg/kg [rat], LD50: 20000 mg/kg [rat], LD50: 22000 mg/kg [mouse], LD50: 18350 mg/kg [guinea pig]
Acute toxicity (dermal): LD50: 20800 mg/kg [rabbit]
Skin corrosion/irritation: Mild [rabbit]
Serious eye damage/irritation: Minimal [rabbit]
Skin sensitization: None 0% Maximization method [guinea pig]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative, Micronucleus test: Negative

Dye

Acute toxicity (oral): LD50: > 5000 mg/kg [rat]
Acute toxicity (inhalation): LD50: > 100 mg/L/4h [rat]
Skin corrosion/irritation: None [rabbit]
Serious eye damage/irritation: None [rabbit]
Mutagenicity: Ames Test: Negative

Organic solvent (2)

Acute toxicity (oral): LD50: 12600 mg/kg [rat], LD50: 4090 mg/kg [mouse], LD50: 27000 mg/kg [rabbit], LD50: 7750 mg/kg [guinea pig]
Acute toxicity (inhalation): LC50: > 570 mg/m3/1h [rat]
Skin corrosion/irritation: Minimal [rabbit]
Serious eye damage/irritation: None [rabbit]
Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

Ecotoxicity

Fish acute toxicity: 24hrLC50: >5000mg/l - modified ASTM D 1345 [Goldfish]
Daphnia acute toxicity: 48hrEC50: 10000mg/l [Daphnia magna]
Algae acute toxicity: 1g/l No effect [Scenedesmus subspicatus]
Persistence and degradability: Readily biodegradable

Organic solvent (1)

Ecotoxicity
Fish acute toxicity: 96hrLC50: >100mg/l [Oryzias latipes]
Daphnia acute toxicity: 48hrEC50: >1000mg/l [Daphnia magna]
Algae acute toxicity: 48hrEC50: >1000mg/l [Selenastrum capricornutum]
Persistence and degradability: Readily biodegradable

Organic solvent (2)

Ecotoxicity
Fish acute toxicity: 24hrLC50: >5000mg/l [Goldfish]
Daphnia acute toxicity: 24hrEC50: >10000mg/l [Daphnia magna]
Persistence and degradability: Readily biodegradable
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Pink

13. Disposal considerations

Disposal methods: When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.

14. Transport information

UN classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---

15. Regulatory information

OSHA Hazard Communication Standard, 29CFR 1910.1200: This product is NOT considered hazardous under this standard.
CERCLA (Comprehensive Environmental Response
SARA Title III (Superfund Amendments and Reauthorization Act) 302
Ethylene glycol: Reportable Quantities 5000 lb (2270 kg)
None.
None.
Ethylene glycol

16. Other information

HMIS Hazard Rating: Health : 1, Flammability : 1, Reactivity : 0
Disclaimer: The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Sky

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

Product Name: Reactive Dye Ink Sky
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN

2. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/Mixture:</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredients and Concentration</td>
<td></td>
</tr>
<tr>
<td>Ingredient Name</td>
<td>Concentrationwt. %</td>
</tr>
<tr>
<td>Water</td>
<td>30-40</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>20-30</td>
</tr>
<tr>
<td>Organic solvent (1)</td>
<td>10-20</td>
</tr>
<tr>
<td>Dye</td>
<td>10-20</td>
</tr>
<tr>
<td>Organic solvent (2)</td>
<td>1-10</td>
</tr>
</tbody>
</table>

3. Hazards identification

EMERGENCY OVERVIEW
Colored liquid. Slight characteristic odor.
May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS
Eye Effects : May cause eye and mucous membrane irritation.
Skin Effects : May cause slight skin irritation.
Ingestion Effects : May be harmful if swallowed.
Inhalation Effects : No identified health effects.
Chronic Effects / Carcinogenicity : None of the components in this material is listed by IARC, NTP or ACGIH as a carcinogen.

4. First-aid measures

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately.
Skin Contact: Wash with water and mild soap for 15 minutes. If symptoms occur, get medical attention.
Ingestion: Wash out mouth with water. Drink one or two glasses of water. Get medical attention immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Inhalation: No exposure expected under normal conditions. Large amount of vapor or mist if inhaled, move victim to fresh air immediately. If symptoms occur, get medical attention.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol-resistant foam.
Extinguishing Media to Avoid: No information.
Fire Fighting: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire out of sheltered position.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See Section 8).
Environmental precautions: No information.
Methods and materials for containment and cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and storage

Handling
Technical Measures: Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
Ventilation requirements: Use with adequate ventilation.
Precautions: No information.
Precautions for safe handling:
Storage
Storage Conditions: Keep container tightly closed. Store in a cool and dry place. Keep away from incompatible substances (See Section 10).
Safety adequate container materials: No information.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>OSHA-PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV-TWA</td>
<td>TLV-STE(L)</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>None established</td>
<td>100mg/m3 [C]</td>
</tr>
<tr>
<td>Organic solvent (1)</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>Dye</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>Organic solvent (2)</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Sky

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Product</th>
<th>Physical state</th>
<th>Form</th>
<th>Color</th>
<th>Odor</th>
<th>pH</th>
<th>Melting point/freezing point</th>
<th>Initial boiling point and boiling range</th>
<th>Flash point</th>
<th>Auto-ignition temperature</th>
<th>Upper/lower flammability or explosive limits</th>
<th>Vapour pressure</th>
<th>Vapour density</th>
<th>Evaporation rate</th>
<th>Specific Gravity</th>
<th>Solubility</th>
<th>Partition coefficient</th>
<th>n-octanol/water</th>
<th>Decomposition temperature</th>
<th>Auto-ignition temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Liquid</td>
<td>Liquid</td>
<td>Colored</td>
<td>Slight characteristic odor</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td>Complete soluble</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td></td>
</tr>
</tbody>
</table>

10. Stability and reactivity

| Chemical stability | Stable. |
| Possibility of hazardous reactions | No Information. |
| Conditions to avoid | No Information. |
| Incompatible materials | Oxidizers |
| Hazardous decomposition products | Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Chlorine, Hydrogen chloride |

11. Toxicological information

| Product | No Data |
| Ingredient | Ethylene glycol |
| Acute toxicity (oral) | LD50: 4700 mg/kg[rat], LD50: 7500 mg/kg[mouse] |
| Skin corrosion/irritation | Mild [rabbit] |
| Serious eye damage/irritation | Mild [rabbit] |
| Mutagenicity | Ames Test: Negative, Chromosomal aberration test: Negative |
SAFETY DATA SHEET

Product Name: Reactive Dye Ink Sky

12. Ecological information

<table>
<thead>
<tr>
<th>Product</th>
<th>No Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredient</td>
<td>Ethylene glycol</td>
</tr>
<tr>
<td>Ecotoxicity</td>
<td></td>
</tr>
<tr>
<td>Fish acute toxicity:</td>
<td>24hrLC50: &gt;5000mg/l -modified ASTM D 1345[Goldfish]</td>
</tr>
<tr>
<td>Daphnia acute toxicity:</td>
<td>48hrEC50: 10000mg/l[Daphnia magna]</td>
</tr>
<tr>
<td>Algae acute toxicity:</td>
<td>1g/l No effect [Scenedesmus subspicatus]</td>
</tr>
<tr>
<td>Persistence and degradability:</td>
<td>Readily biodegradable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organic solvent (1)</th>
<th>Ecotoxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish acute toxicity:</td>
<td>96hrLC50:100mg/l[Oryzias latipes]</td>
</tr>
<tr>
<td>Daphnia acute toxicity:</td>
<td>48hrEC50:10000mg/l[Daphnia magna]</td>
</tr>
<tr>
<td>Algae acute toxicity:</td>
<td>48hrEC50:10000mg/l[Selenastrum capricornutum]</td>
</tr>
<tr>
<td>Persistence and degradability:</td>
<td>Readily biodegradable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organic solvent (2)</th>
<th>Ecotoxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish acute toxicity:</td>
<td>24hrLC50:5000mg/l[Goldfish]</td>
</tr>
<tr>
<td>Daphnia acute toxicity:</td>
<td>24hrEC50:10000mg/l[Daphnia magna]</td>
</tr>
<tr>
<td>Persistence and degradability:</td>
<td>Readily biodegradable</td>
</tr>
</tbody>
</table>

13. Disposal considerations

When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.
Product Name: Reactive Dye Ink Sky

14. Transport information

UN Class UN classification: ---
UN number: ---
Proper shipping name: ---
Packing group: ---

15. Regulatory information

OSHA Hazard Communication Standard, 29CFR 1910.1200: This product is NOT considered hazardous under this standard.
CERCLA(Comprehensive Environmental Response, SARA Title III (Superfund Amendments and Reauthorization Act) 302 Extreme Hazardous Substance: None.
311/312 Hazard Categories: None.
313 Reportable Ingredients: Ethylene glycol

SARA Title III (Superfund Amendments and Reauthorization Act) 302 Extreme Hazardous Substance: None.

16. Other information

HMIS Hazard Rating: Health: 1, Flammability: 1, Reactivity: 0
Disclaimer: The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.