

SAFETY DATA SHEET

MSDS: 2013077010US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Yellow

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
Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

Ingredient Name	Concentrationwt. %	CAS#
Water	55-70	7732-18-5
Ethylene glycol	20-35	107-21-1
Dye	1-10	---
Glycerin	1-5	56-81-5

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.

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Product Name: Reactive Dye Ink Yellow

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

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Product Name: Reactive Dye Ink Yellow

Control parameters

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Dye	None established	None established	None established	None established
Glycerin	None established	None established	15mg/m ³ (total dust)	None established

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: Unknown
 Solubility: water : Completely soluble.
 Partition coefficient: n-octanol/water: No data.
 Decomposition temperature: No data.

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MSDS: 2013077010US

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Date Revised:

Product Name: Reactive Dye Ink Yellow

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

SAFETY DATA SHEET

MSDS: 2013077010US
Date Prepared: 2014/01/06
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Product Name: Reactive Dye Ink Yellow

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

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

MSDS: 2013077020US
 Date Prepared: 2014/01/06
 Date Revised:

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
 Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
 Ingredients and Concentration

Ingredient Name	Concentrationwt. %	CAS#
Water	55-70	7732-18-5
Ethylene glycol	20-35	107-21-1
Dye	1-10	---
Glycerin	1-5	56-81-5

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

MSDS: 2013077020US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink Light Yellow

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

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Dye	None established	None established	None established	None established
Glycerin	None established	None established	15mg/m ³ (total dust)	None established

SAFETY DATA SHEET

MSDS: 2013077020US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Light Yellow

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: Unknown
Solubility: water : Completely soluble.
Partition coefficient: 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[rat]
Skin sensitization: None(Data of similar product) 0% Maximization method
Mutagenicity: Ames Test:Negative

SAFETY DATA SHEET

MSDS: 2013077020US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Light Yellow

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, 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

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.

SAFETY DATA SHEET

MSDS: 2013077020US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Light Yellow

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 : 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

MSDS: 2013077030US
Date Prepared: 2014/01/06
Date Revised:

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
Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

Ingredient Name	Concentrationwt. %	CAS#
Water	55-70	7732-18-5
Ethylene glycol	20-35	107-21-1
Dye	1-10	---
Glycerin	1-5	56-81-5

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

MSDS: 2013077030US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Magenta

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

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Dye	None established	None established	None established	None established
Glycerin	None established	None established	15mg/m ³ (total dust)	None established

SAFETY DATA SHEET

MSDS: 2013077030US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Magenta

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: Unknown
Solubility: water : Completely soluble.
Partition coefficient: 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, 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: None(Data of similar product) 0% Maximization method
Mutagenicity: Ames Test:Negative

SAFETY DATA SHEET

MSDS: 2013077030US

Date Prepared: 2014/01/06

Date Revised:

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.

SAFETY DATA SHEET

MSDS: 2013077030US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Magenta

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 : 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

MSDS: 2013077040US
Date Prepared: 2014/01/06
Date Revised:

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
Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

Ingredient Name	Concentrationwt. %	CAS#
Water	55-70	7732-18-5
Ethylene glycol	20-35	107-21-1
Dye	1-10	---
Glycerin	1-5	56-81-5

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

MSDS: 2013077040US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink Light Magenta

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

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Dye	None established	None established	None established	None established
Glycerin	None established	None established	15mg/m ³ (total dust)	None established

SAFETY DATA SHEET

MSDS: 2013077040US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink Light Magenta

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: 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

MSDS: 2013077040US

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, 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

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.

SAFETY DATA SHEET

MSDS: 2013077040US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Light Magenta

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 : 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

MSDS: 2013077050US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Cyan

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
Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

Ingredient Name	Concentration wt. %	CAS#
Water	55-70	7732-18-5
Ethylene glycol	20-35	107-21-1
Dye	1-10	---
Glycerin	1-5	56-81-5
Urea	0-2	57-13-6

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

MSDS: 2013077050US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink 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

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Dye	None established	None established	None established	None established
Glycerin	None established	None established	15mg/m ³ (total dust)	None established
Urea	None established	None established	None established	None established

SAFETY DATA SHEET

MSDS: 2013077050US
Date Prepared: 2014/01/06
Date Revised:

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: 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

SAFETY DATA SHEET

MSDS: 2013077050US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Cyan

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]
 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

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

Glycerin

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

Urea

Ecotoxicity
 Fish acute toxicity: 96hrLC50: 12000 mg/L[Rasbora heteromorpha], 96hrLC50:>
 6810 mg/L[Leuciscus idus]
 Daphnia acute toxicity: 24hrEC50:> 10000 mg/L[Daphnia magna]
 Algae acute toxicity: Toxicity threshold for 192 hr> 10000 mg/L[Green algae]
 Persistence and degradability: Readily biodegradable

SAFETY DATA SHEET

MSDS: 2013077050US
Date Prepared: 2014/01/06
Date Revised:

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 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 : 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

MSDS: 2013077060US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink Light Cyan

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
 Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
 Ingredients and Concentration

Ingredient Name	Concentration wt. %	CAS#
Water	55-70	7732-18-5
Ethylene glycol	20-35	107-21-1
Dye	1-10	---
Glycerin	1-5	56-81-5

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

MSDS: 2013077060US
 Date Prepared: 2014/01/06
 Date Revised:

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

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Dye	None established	None established	None established	None established
Glycerin	None established	None established	15mg/m ³ (total dust)	None established

SAFETY DATA SHEET

MSDS: 2013077060US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Light 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: 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

SAFETY DATA SHEET

MSDS: 2013077060US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Light Cyan

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, Chromosomal aberration test:Negative

Dye

Acute toxicity (oral): LD50: > 5000 mg/kg[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

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

MSDS: 2013077060US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Light Cyan

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 : Ethylene glycol: Reportable Quantities 5000 lb(2270 kg)
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

MSDS: 2013077070US
 Date Prepared: 2014/01/06
 Date Revised:

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
 Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
 Ingredients and Concentration

Ingredient Name	Concentration wt. %	CAS#
Water	55-70	7732-18-5
Ethylene glycol	20-35	107-21-1
Dye	1-10	---
Glycerin	1-5	56-81-5
Urea	0-2	57-13-6

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.

SAFETY DATA SHEET

MSDS: 2013077070US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Black

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

MSDS: 2013077070US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink Black

Control parameters

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Dye	None established	None established	None established	None established
Glycerin	None established	None established	15mg/m ³ (total dust)	None established
Urea	None established	None established	None established	None established

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: n-octanol/water: No data.
 Decomposition temperature: No data.

10. Stability and reactivity

Chemical stability: Stable.
 Possibility of hazardous reactions: No Information.

SAFETY DATA SHEET

MSDS: 2013077070US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink Black

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 (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: Mild [rabbit]
 Serious eye damage/irritation: Minimal [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

MSDS: 2013077070US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Black

Glycerin

Ecotoxicity

Fish acute toxicity: 24hrLC50:>5000mg/l [Goldfish]

Daphnia acute toxicity: 24hrEC50:>10000mg/l [Daphnia magna]

Persistence and degradability: Readily biodegradable

Urea

Ecotoxicity

Fish acute toxicity: 96hrLC50: 12000 mg/L [Rasbora heteromorpha], 96hrLC50:>6810 mg/L [Leuciscus idus]

Daphnia acute toxicity: 24hrEC50:> 10000 mg/L [Daphnia magna]

Algae acute toxicity: Toxicity threshold for 192 hr > 10000 mg/L [Green algae]

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:

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

MSDS: 2013077090US
Date Prepared: 2014/01/06
Date Revised:

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
Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

Ingredient Name	Concentrationwt. %	CAS#
Water	55-70	7732-18-5
Ethylene glycol	20-35	107-21-1
Dye	1-10	---
Glycerin	1-5	56-81-5

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.

SAFETY DATA SHEET

MSDS: 2013077090US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Light Black

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

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Dye	None established	None established	None established	None established
Glycerin	None established	None established	15mg/m ³ (total dust)	None established

SAFETY DATA SHEET

MSDS: 2013077090US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Light Black

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: 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

MSDS: 2013077090US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Light Black

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: 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.

SAFETY DATA SHEET

MSDS: 2013077090US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Light Black

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 None.
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

MSDS: 2013077080US
 Date Prepared: 2014/01/06
 Date Revised:

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: Konica Minolta, Inc.
 Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
 Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
 Ingredients and Concentration

Ingredient Name	Concentration wt. %	CAS#
Water	35-45	7732-18-5
Ethylene glycol	20-30	107-21-1
Organic solvent (1)	10-20	---
Dye	5-20	---
Organic solvent (2)	1-10	---

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.

SAFETY DATA SHEET

MSDS: 2013077080US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Gray

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

MSDS: 2013077080US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink Gray

Control parameters

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Organic solvent (1)	None established	None established	None established	None established
Dye	None established	None established	None established	None established
Organic solvent (2)	None established	None established	15mg/m ³ (total dust)	None established

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.

SAFETY DATA SHEET

MSDS: 2013077080US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Gray

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 (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/m³/1h [rat]
 Skin corrosion/irritation: Mild [rabbit]
 Serious eye damage/irritation: Minimal [rabbit]
 Mutagenicity: Ames Test: Negative, Chromosomal aberration test: Negative

SAFETY DATA SHEET

MSDS: 2013077080US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Gray

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

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

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: ---
name: ---
Packing group: ---

SAFETY DATA SHEET

MSDS: 2013077080US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Gray

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 : Ethylene glycol: Reportable Quantities 5000 lb(2270 kg)
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

MSDS: 2013077100US
Date Prepared: 2014/01/06
Date Revised:

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
Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

Ingredient Name	Concentrationwt. %	CAS#
Water	45-55	7732-18-5
Ethylene glycol	30-40	107-21-1
Dye	5-15	---
Glycerin	1-5	56-81-5

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

MSDS: 2013077100US

Date Prepared: 2014/01/06

Date Revised:

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

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Dye	None established	None established	None established	None established
Glycerin	None established	None established	15mg/m ³ (total dust)	None established

SAFETY DATA SHEET

MSDS: 2013077100US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Blue

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: No data.
Auto-ignition temperature: No data.
Vapour pressure: No data.
Vapour density: No data.
Evaporation rate: No data.
Specific Gravity: No data.
Solubility: water : Completely soluble.
Partition coefficient: 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, Nitrogen oxides, Sulfur oxides, Chlorine, Hydrogen chloride

11. Toxicological information**Product**

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

SAFETY DATA SHEET

MSDS: 2013077100US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Blue

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: Strong 80% 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: 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.

SAFETY DATA SHEET

MSDS: 2013077100US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Blue

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 : 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

MSDS: 2013077110US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink Oragne

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

Product Name: Reactive Dye Ink Oragne
 Identification of the supplier: Konica Minolta, Inc.
 Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
 Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
 Ingredients and Concentration

Ingredient Name	Concentrationwt. %	CAS#
Water	45-55	7732-18-5
Ethylene glycol	30-40	107-21-1
Dye	5-15	---
Glycerin	1-5	56-81-5

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

MSDS: 2013077110US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink Oragne

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

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Dye	None established	None established	None established	None established
Glycerin	None established	None established	15mg/m ³ (total dust)	None established

SAFETY DATA SHEET

MSDS: 2013077110US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Oragne

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: No data.
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: 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, Nitrogen oxides, Sulfur oxides, Chlorine, Hydrogen chloride

11. Toxicological information**Product**

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

SAFETY DATA SHEET

MSDS: 2013077110US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Oragne

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 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: 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 : ---

SAFETY DATA SHEET

MSDS: 2013077110US
Date Prepared: 2014/01/06
Date Revised:

Product Name: Reactive Dye Ink Oragne

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)
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

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

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
Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
Ingredients and Concentration

Ingredient Name	Concentrationwt. %	CAS#
Water	45-55	7732-18-5
Ethylene glycol	30-40	107-21-1
Dye	5-15	---
Glycerin	1-5	56-81-5

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

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

Product Name: Reactive Dye Ink Extra Magenta

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

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Dye	None established	None established	None established	None established
Glycerin	None established	None established	15mg/m ³ (total dust)	None established

SAFETY DATA SHEET

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

Product Name: Reactive Dye Ink Extra Magenta

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: No data.
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, Nitrogen oxides, Sulfur oxides, Chlorine, Hydrogen chloride

11. Toxicological information**Product**

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

SAFETY DATA SHEET

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

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 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: 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: ---

SAFETY DATA SHEET

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

Product Name: Reactive Dye Ink Extra Magenta

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 : Ethylene glycol: Reportable Quantities 5000 lb(2270 kg)
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

MSDS: 2013077130US
 Date Prepared: 2014/01/06
 Date Revised:

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
 Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
 Ingredients and Concentration

Ingredient Name	Concentrationwt. %	CAS#
Water	35-45	7732-18-5
Ethylene glycol	20-30	107-21-1
Organic solvent (1)	10-20	---
Dye	5-20	---
Organic solvent (2)	1-10	---

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

MSDS: 2013077130US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Pink

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

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Organic solvent (1)	None established	None established	None established	None established
Dye	None established	None established	None established	None established
Organic solvent (2)	None established	None established	15mg/m ³ (total dust)	None established

SAFETY DATA SHEET

MSDS: 2013077130US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink Pink

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, 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: None (Data of similar product) 0% Maximization method
 Mutagenicity: Ames Test: Negative

SAFETY DATA SHEET

MSDS: 2013077130US

Date Prepared: 2014/01/06

Date Revised:

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: 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

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

MSDS: 2013077130US
Date Prepared: 2014/01/06
Date Revised:

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 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 : 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

MSDS: 2009007011US
 Date Prepared: 2014/01/06
 Date Revised:

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
 Charge section: (TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Mixture
 Ingredients and Concentration

Ingredient Name	Concentrationwt. %	CAS#
Water	30-40	7732-18-5
Ethylene glycol	20-30	107-21-1
Organic solvent (1)	10-20	---
Dye	10-20	---
Organic solvent (2)	1-10	---

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

MSDS: 2009007011US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Sky

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

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None established	100mg/m ³ [C]	None established	None established
Organic solvent (1)	None established	None established	None established	None established
Dye	None established	None established	None established	None established
Organic solvent (2)	None established	None established	15mg/m ³ (total dust)	None established

SAFETY DATA SHEET

MSDS: 2009007011US
 Date Prepared: 2014/01/06
 Date Revised:

Product Name: Reactive Dye Ink Sky

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: No data.
 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: 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, 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

MSDS: 2009007011US

Date Prepared: 2014/01/06

Date Revised:

Product Name: Reactive Dye Ink Sky

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]
 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: 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

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

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.

SAFETY DATA SHEET

MSDS: 2009007011US
Date Prepared: 2014/01/06
Date Revised:

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 :
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.