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	Konica Minolta, Inc.
supplier:	
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: Ingredients and Concentration Mixture

Ingredient Name	Concentr ationwt.	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.

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
Inhalation:	unconscious person. 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.

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

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

nanuring		
	Technical Measures:	Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
	Ventilation	Use with adequate ventilation.
	requirements:	
	Precautions:	No information.
	Treeductions.	
	Precautions for safe handling:	No information.
Storage	0	
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.

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

Product Name:

Reactive Dye Ink Yellow

Control parameters

Ingredient Name	ACGIH		OSHA-PEL	
Ingreutent Name	TLV-TWA	TLV-STEL	TWA	STEL
	None establis hed	[C]	establis	None establis hed
	establis	establis	establis	None establis hed
	establis	None establis hed	(total	None establis hed

Personal Protective Equipment

Respiratory	Protection:
Hand protect	tion:
Eye/face pro	otection:
Skin Protect	tion:

Not required under normal conditions. Impervious gloves should be worn. Splash goggles should be worn. Not required under normal conditions.

9. Physical and chemical properties

Product

Physical state:	Liquid
Form:	Liquid
Color:	Colored
0dor:	slight characteristic odor
рН:	No data.
Melting point/freezing	No data.
point:	
Initial boiling point	No data.
and boiling range:	
Flash point:	None
Auto-ignition	No data.
temperature:	N7 1 .
Upper/lower flammability	No data.
or explosive limits:	N
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	No data.
temperature:	

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

Product Name:

Reactive Dye Ink Yellow

10. Stability and reactivity

Chemical stability:	Stable.
Possibility of hazardous	No Information.
reactions:	
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 g	lycol	
	Acute toxicity (oral): Skin corrosion/irritation: Serious eye damage/irritation:	LD50: 4700 mg/kg[rat], LD50: 7500 mg/kg[mouse] Mild [rabbit] 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: Skin sensitization:	None [rabbit]
	Mutagenicity:	Moderate 53% Maximization method [guinea pig] Ames Test:Negative, Micronucleus test:Negative
Glycerin	mutagenierty.	Ames rest-hegative, micronacicus test-hegative
	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/1 -modified ASTM D 1345[Goldfish]
Daphnia acute toxicity:	48hrEC50: 10000mg/1[Daphnia magna]
Algae acute toxicity:	lg/l No effect [Scenedesmus subspicatus]
Persistence and degradability:	Readily biodegradable

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

Product Name:

Reactive Dye Ink Yellow

Glycerin

Ecotoxicity Fish acute toxicity: Daphnia acute toxicity: Persistence and degradability:

24hrLC50:>5000mg/1[Goldfish] 24hrEC50:>10000mg/1[Daphnia magna] Readily biodegradable

13. Disposal considerations

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

14. Transport information

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

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

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	Konica Minolta, Inc.
supplier:	
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: Ingredients and Concentration Mixture

Ingredient Name	Concentr ationwt. %	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.

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.

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

nanui ing		
	Technical Measures:	Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
	Ventilation	Use with adequate ventilation.
	requirements:	
	Precautions:	No information.
	Precautions for safe handling:	No information.
Storage		
0	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 establis hed	100mg/m3 [C]		None establis hed
Dye		establis	None establis hed	establis	None establis hed
Glycerin		establis	None establis hed	15mg/m3 (total dust)	None establis hed

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

Product Name:

Reactive Dye Ink Light Yellow

Personal Protective Equipment

Sonar Trovective 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 No data.	
point:	
Initial boiling point No data.	
and boiling range:	
Flash point: None	
Auto-ignition No data.	
temperature:	
Upper/lower flammability No data.	
or explosive limits:	
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 No data.	
temperature:	

10. Stability and reactivity

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

11. Toxicological information

Product

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

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

Pro	duct Name: Reactive Dye Ink	Light Yellow
Ingredient		
Ethylene g	lycol	
	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 g	lycol	
	Ecotoxicity	
	Fish acute toxicity:	24hrLC50: >5000mg/l -modified ASTM D 1345[Goldfish]
	Daphnia acute toxicity:	48hrEC50: 10000mg/1[Daphnia magna]
	Algae acute toxicity:	lg/l No effect [Scenedesmus subspicatus]
	Persistence and degradability:	Readily biodegradable
Glycerin		
	Ecotoxicity	
	Fish acute toxicity:	24hrLC50:>5000mg/1[Goldfish]
	Daphnia acute toxicity:	24hrEC50:>10000mg/1[Daphnia magna]
	Persistence and degradability:	Readily biodegradable

13. Disposal considerations

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

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

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

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	Konica Minolta, Inc.
supplier: Address:	2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Charge section:	(TEL:+81-42-580-3730 EAV:+81-42-580-3868)
charge section.	(TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Ingredients and Concentration Mixture

Ingredient Name	Concentr ationwt. %	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.

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.

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 clothin to prevent contact with skin and eyes. Apply cooling water to sides of containers that are exposed to flames. Combat fire ou 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

nanui ing		
	Technical Measures:	Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
	Ventilation	Use with adequate ventilation.
	requirements:	
	Precautions:	No information.
	Precautions for safe handling:	No information.
Storage		
0	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	AC	ACGIH		OSHA-PEL	
Ingredient Name	TLV-TWA	TLV-STEL	TWA	STEL	
Ethylene glycol	None establis hed	100mg/m3 [C]	establis	None establis hed	
Dye	None establis hed	establis	establis	None establis hed	
Glycerin	None establis hed	None establis hed	(total	None establis hed	

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

Product Name:

Reactive Dye Ink Magenta

Personal Protective Equipment

Loomar I	roccorre Equipmente	
	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:LiquidForm:LiquidColor:ColoredOdor:slight characteristic odorpH:No data.Melting point/freezingNo data.point:Initial boiling pointInitial boiling range:Flash point:Flash point:NoneAuto-ignitionNo data.temperature:Upper/lower flammabilityUpper/lower flammabilityNo data.or explosive limits:No data.
Color:ColoredOdor:slight characteristic odorpH:No data.Melting point/freezingNo data.point:Initial boiling pointInitial boiling range:Flash point:Flash point:NoneAuto-ignitionNo data.temperature:Upper/lower flammabilityUppersive limits:Vontata.
pH: No data. Melting point/freezing No data. point: Initial boiling point No data. and boiling range: Flash point: None Auto-ignition No data. temperature: Upper/lower flammability No data. or explosive limits:
pH:No data.Melting point/freezingNo data.point:Initial boiling pointNo data.and boiling range:Flash point:NoneAuto-ignitionNo data.temperature:Upper/lower flammabilityNo data.or explosive limits:Vata.
Melting point/freezing No data. point: Initial boiling point No data. and boiling range: Flash point: None Auto-ignition No data. temperature: Upper/lower flammability No data. or explosive limits:
point: Initial boiling point No data. and boiling range: Flash point: None Auto-ignition No data. temperature: Upper/lower flammability No data. or explosive limits:
and boiling range: Flash point: None Auto-ignition No data. temperature: Upper/lower flammability No data. or explosive limits:
Flash point:NoneAuto-ignitionNo data.temperature:Upper/lower flammability No data.or explosive limits:
Auto-ignition No data. temperature: Upper/lower flammability No data. or explosive limits:
temperature: Upper/lower flammability No data. or explosive limits:
Upper/lower flammability No data. or explosive limits:
or explosive limits:
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 No data.
temperature:

10. Stability and reactivity

11. Toxicological information

Product

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

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

Pro	duct Name: Reactive Dye Ink	Magenta		
Ingredient Ethylene glycol				
	Acute toxicity (oral): Skin corrosion/irritation: Serious eye damage/irritation: Mutagenicity:	LD50: 4700 mg/kg[rat], LD50: 7500 mg/kg[mouse] Mild [rabbit] Mild [rabbit] Ames Test:Negative, Chromosomal aberration test:Negative		
Dye				
Glycerin	Acute toxicity (oral): Acute toxicity (inhalation): Skin corrosion/irritation: Serious eye damage/irritation: Mutagenicity:	LD50:> 5000 mg/kg[rat] LD50:> 100 mg/L/4h[rat] None [rabbit] None [rabbit] Ames Test:Negative		
Grycerin	Acute toxicity (oral): Acute toxicity (inhalation): Skin corrosion/irritation: Serious eye damage/irritation: Mutagenicity:	LD50: 12600 mg/kg[rat], LD50: 4090 mg/kg[mouse], LD50: 27000 mg/kg[rabbit], LD50: 7750 mg/kg[guinea pig] LC50: > 570 mg/m3/1h[rat] Mild [rabbit] Minimal [rabbit] Ames Test:Negative, Chromosomal aberration test:Negative		

12. Ecological information

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

13. Disposal considerations

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

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

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

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	Konica Minolta, Inc.
supplier:	
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: Ingredients and Concentration Mixture

Ingredient Name	Concentr ationwt. %	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.

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.

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

nanuring		
	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	
ingreutent Name	TLV-TWA	TLV-STEL	TWA	STEL
		100mg/m3 [C]	establis	None establis hed
		None establis hed	establis	None establis hed
	establis	None establis hed	(total	None establis hed

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

Product Name:

Reactive Dye Ink Light Magenta

Personal Protective Equipment

Not required under normal conditions.
Impervious gloves should be worn.
Splash goggles should be worn.
Not required under normal conditions.

9. Physical and chemical properties

Product

Physical state:	Liquid
Form:	Liquid
Color:	Colored
0dor:	slight characteristic odor
pH:	No data.
Melting point/freezing	No data.
point:	
Initial boiling point	No data.
and boiling range:	
Flash point:	None
Auto-ignition	No data.
temperature:	
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	No data.
temperature:	

10. Stability and reactivity

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

11. Toxicological information

Product

```
Acute toxicity (oral):
Skin sensitization:
Mutagenicity:
```

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

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

Pro	duct Name: Reactive Dye Ink	Light Magenta
Ingredient		
Ethylene g	lycol	
	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 g	lycol	
	Ecotoxicity	
	Fish acute toxicity:	24hrLC50: >5000mg/1 -modified ASTM D 1345[Goldfish]
	Daphnia acute toxicity:	48hrEC50: 10000mg/1[Daphnia magna]
	Algae acute toxicity:	lg/l No effect [Scenedesmus subspicatus]
	Persistence and degradability:	Readily biodegradable
Glycerin		
	Ecotoxicity	
	Fish acute toxicity:	24hrLC50:>5000mg/1[Goldfish]
	Daphnia acute toxicity:	24hrEC50:>10000mg/1[Daphnia magna]
	Persistence and degradability:	Readily biodegradable

13. Disposal considerations

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

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

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

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	Konica Minolta, Inc.
supplier: Address: Charge section:	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: Ingredients and Concentration Mixture

Ingredient Name	Concentr ationwt. %	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 H	FALTH FFFFCTS	

FUIENTIAL 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.

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.

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

manarina		
	Technical Measures:	Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
	Ventilation	Use with adequate ventilation.
	requirements:	
	Precautions:	No information.
	Precautions for safe handling:	No information.
Storage	0	
	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	100 mg/m3	None	None
	establis	[C]	establis	establis
	hed		hed	hed
Dye	None	None	None	None
	establis	establis	establis	establis
	hed	hed	hed	hed
Glycerin	None	None	15 mg/m3	None
	establis	establis	(total	establis
	hed	hed	dust)	hed
Urea	None	None	None	None
	establis	establis	establis	establis
	hed	hed	hed	hed

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

Product Name:

Reactive Dye Ink Cyan

Personal Protective Equipment

Loomar I	roccorre Equipmente	
	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

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

10. Stability and reactivity

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

11. Toxicological information

Product

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

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

Pro	oduct Name: Reactive Dye Ink	Cyan
Ingredient	t	
Ethylene g	glycol	
	Acute toxicity (oral): Skin corrosion/irritation: Serious eye damage/irritation: Mutagenicity:	LD50: 4700 mg/kg[rat], LD50: 7500 mg/kg[mouse] Mild [rabbit] Mild [rabbit] Ames Test:Negative, Chromosomal aberration test:Negative
Dye		
2	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:
	Acute toxicity (dermal):	11000 mg/kg[mouse], LD50: 11500 mg/kg[mouse] LD50: 8200 mg/kg[rat]
	Mutagenicity:	Ames Test:Negative, Chromosomal aberration test:Negative

12. Ecological information

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

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

Product Name:

Reactive Dye Ink Cyan

13. Disposal considerations

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

14. Transport information

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

15. Regulatory information

OSHA Hazard Communication This product is NOT considered hazardous under this standard. Standard, 29CFR 1910.1200 : CERCLA (Comprehensive Ethylene glycol: Reportable Quantities 5000 1b(2270 kg) Environmental Response SARA Title III (Superfund None. 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.

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	Konica Minolta, Inc.
supplier:	
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: Ingredients and Concentration Mixture

Ingredient Name	Concentr ationwt. %	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.

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.

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

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

Ingr	Ingredient Name	ACGIH		OSHA-PEL	
IIIgI	Ingrealent Name		TLV-STEL	TWA	STEL
Ethylene glycol		None establis hed	100mg/m3 [C]		None establis hed
Dye		establis	None establis hed		None establis hed
Glycerin		establis	None establis hed	(total	None establis hed

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

Product Name:

Reactive Dye Ink Light Cyan

Personal Protective Equipment

Not required under normal conditions.
Impervious gloves should be worn.
Splash goggles should be worn.
Not required under normal conditions.

9. Physical and chemical properties

Product

Physical state:	Liquid
Form:	Liquid
Color:	Colored
Odor:	slight characteristic odor
: Hq	No data.
Melting point/freezing	No data.
point:	
Initial boiling point	No data.
and boiling range:	
Flash point:	None
Auto-ignition	No data.
temperature:	
Upper/lower flammability	No data.
or explosive limits:	N 1.4
Vapour pressure:	No data.
Vapour density:	No data.
Evaporation rate:	No data.
Specific Gravity:	No data.
Solubility:	water:Completely soluble.
Partition coefficient:	No data.
n-octanol/water:	
Decomposition	No data.
temperature:	

10. Stability and reactivity

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

11. Toxicological information

Product

```
Acute toxicity (oral):
Mutagenicity:
```

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

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

Pro	duct Name: Reactive Dye Ink	Light Cyan
Ingredient		
Ethylene g	lycol	
	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 g	lycol	
	Ecotoxicity	
	Fish acute toxicity:	24hrLC50: >5000mg/l -modified ASTM D 1345[Goldfish]
	Daphnia acute toxicity:	48hrEC50: 10000mg/1[Daphnia magna]
	Algae acute toxicity:	lg/l No effect [Scenedesmus subspicatus]
	Persistence and degradability:	Readily biodegradable
Glycerin		
	Ecotoxicity	
	Fish acute toxicity:	24hrLC50:>5000mg/1[Goldfish]
	Daphnia acute toxicity:	24hrEC50:>10000mg/1[Daphnia magna]
	Persistence and degradability:	Readily biodegradable

13. Disposal considerations

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

14. Transport information

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

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	Ethylene glycol: Reportable Quantities 5000 lb(2270 kg)
SARA Title III (Superfund	None.
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.

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	Konica Minolta, Inc.
supplier: 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: Ingredients and Concentration Mixture

	Concentr	
Ingredient Name	ationwt.	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.
DOWDMENTAL	

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.

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.

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	Wear personal protective equipment(See Section 8).
equipment and emergency procedures:	
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 Use with adequate ventilation. requirements: Precautions: No information. Precautions for safe Do not breathe dust/fume/gas/mist/vapours/spray. handling: 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 No information. container materials:

8. Exposure controls/personal protection

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

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

Product Name:

Reactive Dye Ink Black

Ingredient Name	ACGIH		OSHA-PEL	
	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None	100 mg/m3	None	None
	establis	[C]	establis	establis
	hed		hed	hed
Dye	None	None	None	None
	establis	establis	establis	establis
	hed	hed	hed	hed
Glycerin	None	None	15mg/m3	None
	establis	establis	(total	establis
	hed	hed	dust)	hed
Urea	None	None	None	None
	establis	establis	establis	establis
	hed	hed	hed	hed

Personal Protective Equipment

Respiratory Protection: Hand protection: Eye/face protection: Skin Protection: Not required under normal conditions. Impervious gloves should be worn. Splash goggles should be worn. 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	No data.
point:	
Initial boiling point	No data.
and boiling range:	N
Flash point:	None
Auto-ignition	No data.
temperature:	
Upper/lower flammability	No data.
or explosive limits:	
Vapour pressure:	No data.
Vapour density:	No data.
Evaporation rate:	No data.
Specific Gravity:	No data.
Solubility:	water:Completely soluble.
Partition coefficient:	No data.
n-octanol/water:	
Decomposition	No data.
temperature:	

10. Stability and reactivity

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

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 Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Chlorine, products: Hydrogen chloride

11. Toxicological information

Product	5
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Product		
	Acute toxicity (oral): Skin sensitization:	LD50:> 2000 mg/kg (Data of similar product)[rat] Positive (Data of similar product) LLNA [mouse]
	Mutagenicity:	Ames Test:Negative
	Matagoniterty	
Ingredient		
Ethylene gl		
	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]
Glycerin	Mutagenicity:	Ames Test:Negative
Grycerin	Acute toxicity (oral):	LD50: 12600 mg/kg[rat], LD50: 4090 mg/kg[mouse], LD50:
	Neute toxicity (oral).	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		
0104	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 gly	ycol	
	Ecotoxicity	
	Fish acute toxicity:	24hrLC50: >5000mg/l -modified ASTM D 1345[Goldfish]
	Daphnia acute toxicity:	48hrEC50: 10000mg/1[Daphnia magna]
	Algae acute toxicity:	lg/l No effect [Scenedesmus subspicatus]
	Persistence and degradability:	Readily biodegradable

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

Pro	oduct Name: Reactive Dye Ink I	3lack
Glycerin		
	Ecotoxicity Fish acute toxicity:	24hrLC50:>5000mg/1[Goldfish]
	Daphnia acute toxicity:	24hrEC50:>10000mg/1[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 When disposing of the waste or recovered material, consult federal, state and/or local methods: regulations for the proper disposal method.

14. Transport information

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

15. Regulatory information

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

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	Konica Minolta, Inc.
supplier:	
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: Ingredients and Concentration Mixture

Ingredient Name	Concentr ationwt. %	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.

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.

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	
Ingreatent Name		TLV-STEL	TWA	STEL
Ethylene glycol	None	100 mg/m3	None	None
	establis	[C]	establis	establis
	hed		hed	hed
Dye	None	None	None	None
	establis	establis	establis	establis
	hed	hed	hed	hed
Glycerin	None	None	15 mg/m3	None
	establis	establis	(total	establis
	hed	hed	dust)	hed

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

Product Name:

Reactive Dye Ink Light Black

Personal Protective Equipment

Not required under normal conditions.
Impervious gloves should be worn.
Splash goggles should be worn.
Not required under normal conditions.

9. Physical and chemical properties

Product

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

10. Stability and reactivity

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

11. Toxicological information

Product

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

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

13. Disposal considerations

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

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

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

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	Konica Minolta, Inc.
supplier:	
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: Ingredients and Concentration Mixture

Ingredient Name	Concentr ationwt. %	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.

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. Use with adequate ventilation. Ventilation requirements: Precautions: No information. Precautions for safe Do not breathe dust/fume/gas/mist/vapours/spray. handling: 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 Keep container tightly closed. Store in a cool and dry place. Storage Conditions: Keep away from incompatible substances (See Section 10). Safety adequate No information. container materials:

8. Exposure controls/personal protection

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

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

Product Name:

Reactive Dye Ink Gray

Control parameters

Ingredient Name	ACGIH		OSHA-PEL	
Ingredient Name		TLV-STEL	TWA	STEL
Ethylene glycol	None	0,	None	None
	establis	[C]	establis	establis
	hed		hed	hed
Organic solvent (1)	None	None	None	None
	establis	establis	establis	establis
	hed	hed	hed	hed
Dye	None	None	None	None
	establis	establis	establis	establis
	hed	hed	hed	hed
Organic solvent (2)	None	None	15mg/m3	None
	establis	establis	(total	establis
	hed	hed	dust)	hed

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	No data.
point:	
Initial boiling point	No data.
and boiling range:	No
Flash point:	None
Auto-ignition	No data.
temperature:	
Upper/lower flammability	No data.
or explosive limits:	
Vapour pressure:	No data.
Vapour density:	No data.
Evaporation rate:	No data.
Specific Gravity:	No data.
Solubility:	water : Completely soluble.
Partition coefficient:	No data.
n-octanol/water:	
Decomposition	No data.
temperature:	

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

Product Name:

Reactive Dye Ink Gray

10. Stability and reactivity

Stable.
No Information.
No Information.
Oxidizers
Carbon monoxide, Carbon dioxide,Nitrogen oxides,Sulfur oxides,Chlorine, Hydrogen chloride

11. Toxicological information

Product

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

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/1 -modified ASTM D 1345[Goldfish] Daphnia acute toxicity: 48hrEC50: 10000mg/1[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/1[Oryzias latipes] Daphnia acute toxicity: 48hrEC50:>1000mg/1[Daphnia magna] Algae acute toxicity: 48hrEC50:>1000mg/1[Selenastrum capricornutum] Persistence and degradability: Readily biodegradable Organic solvent (2) Ecotoxicity Fish acute toxicity: 24hrLC50:>5000mg/1[Goldfish] Daphnia acute toxicity: 24hrEC50:>10000mg/1[Daphnia magna] Readily biodegradable Persistence and degradability:

13. Disposal considerations

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

14. Transport information

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

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	Ethylene glycol: Reportable Quantities 5000 lb(2270 kg)
Environmental Response SARA Title III (Superfund	None.
Amendments and	
Reauthorization Act) 302	
Extreme Hazardous	
Substance :	N7
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.

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	Konica Minolta, Inc.
supplier: 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: Ingredients and Concentration Mixture

Ingredient Name	Concentr ationwt. %	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.

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

nanuring		
	Technical Measures:	Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
	Ventilation	Use with adequate ventilation.
	requirements:	•
	Precautions:	No information.
	Precautions for safe handling:	No information.
Storage	-	
C	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
	None establis hed	100mg/m3 [C]		None establis hed
	establis	None establis hed		None establis hed
	establis	None establis hed	15mg/m3 (total dust)	None establis hed

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

Product Name:

Reactive Dye Ink Blue

Personal Protective Equipment

bollar II	occourte Equipmente	
	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: Form: Color: Odor: pH: Melting point/freezing point: Initial boiling point and boiling range: Flash point: Auto-ignition temperature: Vapour pressure: Vapour density: Evaporation rate: Specific Gravity: Solubility: Partition coefficient: n-octanol/water: Decomposition	Liquid Liquid Colored Slight characteristic odor No data. No data.
n-octanol/water: Decomposition temperature:	No data.

10. Stability and reactivity

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

11. Toxicological information

Product

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Acute toxicity (oral):LD50: > 2000 mg/kg[rat]Skin sensitization:None(Data of similar product) 0% Maximization methodMutagenicity:Ames Test:Negative
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MSDS: 2013077100US Date Prepared: 2014/01/06 Date Revised:

Product Name: Reactive Dye Ink	Blue
Ingredient Ethylene glycol	
Acute toxicity (oral): Skin corrosion/irritation: Serious eye damage/irritation: Mutagenicity:	LD50: 4700 mg/kg[rat], LD50: 7500 mg/kg[mouse] Mild [rabbit] Mild [rabbit] 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: Glycerin	Ames Test:Negative
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/lh[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/1 -modified ASTM D 1345[Goldfish]
Daphnia acute toxicity:	48hrEC50: 10000mg/1[Daphnia magna]
Algae acute toxicity:	lg/l No effect [Scenedesmus subspicatus]
Persistence and degradability:	Readily biodegradable
Glycerin	
Ecotoxicity	
Fish acute toxicity:	24hrLC50:>5000mg/1[Goldfish]
Daphnia acute toxicity:	24hrEC50:>10000mg/1[Daphnia magna]
Persistence and degradability:	Readily biodegradable

13. Disposal considerations

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

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

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

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

2. Composition/information on ingredients

Substance/Mixture:	Mixture		
Ingredients and Concentration			
Ingredient Name		Concentr tionwt. %	CAS#
Water	45	5-55	7732-18-5
Ethylene glycol	30	0-40	107-21-1
Dye	5-	-15	
Glycerin	1-	-5	56-81-5

3. Hazards identification

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.

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	Wear personal protective equipment(See Section 8).
equipment and emergency procedures:	
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.
Storage	Precautions for safe handling:	No information.
5001480	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 establis hed	100mg/m3 [C]	establis	None establis hed
Dye		None establis hed	establis	establis	None establis hed
Glycerin		None establis hed	None establis hed	(total	None establis hed

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

Product Name:

Reactive Dye Ink Oragne

Personal Protective Equipment

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9. Physical and chemical properties

Product

Physical state:	Liquid
Form:	Liquid
Color:	Colored
Odor:	slight characteristic odor
pH:	No data.
Melting point/freezing	No data.
point:	
Initial boiling point	No data.
and boiling range:	
Flash point:	No data.
Auto-ignition	No data.
temperature:	
Upper/lower flammability	No data.
or explosive limits:	
Vapour pressure:	No data.
Vapour density:	No data.
Evaporation rate:	No data.
Specific Gravity:	No data.
Solubility:	water : Completely soluble.
Partition coefficient:	No data.
n-octanol/water:	
Decomposition	No data.
temperature:	

10. Stability and reactivity

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

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Acute toxicity (oral):LD50:> 2000 mg/kg (Data of similar product)[rat]Mutagenicity:Ames Test:Negative
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MSDS: 2013077110US Date Prepared: 2014/01/06 Date Revised:

Pro	duct Name: Reactive Dye Ink	Oragne
Ingredient	;	
Ethylene g	lycol	
	Acute toxicity (oral): Skin corrosion/irritation: Serious eye damage/irritation: Mutagenicity:	LD50: 4700 mg/kg[rat], LD50: 7500 mg/kg[mouse] Mild [rabbit] Mild [rabbit] Ames Test:Negative, Chromosomal aberration test:Negative
Dye		
	Acute toxicity (oral): Skin corrosion/irritation: Serious eye damage/irritation: Skin sensitization: Mutagenicity:	LD50:> 5000 mg/kg[rat] None [rabbit] None [rabbit] None Maximization method [guinea pig] Ames Test:Negative
Glycerin		
	Acute toxicity (oral): Acute toxicity (inhalation): Skin corrosion/irritation: Serious eye damage/irritation: Mutagenicity:	LD50: 12600 mg/kg[rat], LD50: 4090 mg/kg[mouse], LD50: 27000 mg/kg[rabbit], LD50: 7750 mg/kg[guinea pig] LC50: > 570 mg/m3/1h[rat] Mild [rabbit] Minimal [rabbit] Ames Test:Negative, Chromosomal aberration test:Negative

12. Ecological information

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

13. Disposal considerations

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

14. Transport information

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

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	Ethylene glycol: Reportable Quantities 5000 lb(2270 kg)
SARA Title III (Superfund Amendments and	None.
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.

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	Konica Minolta, Inc.
supplier:	
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: Ingredients and Concentration Mixture

	Concentr	
Ingredient Name	ationwt.	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: Skin Contact:	Immediately flush eyes with plenty of water for 15 minutes. Get medical attention immediately. 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.

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

nanuiing		
	Technical Measures:	Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
	Ventilation	Use with adequate ventilation.
	requirements:	*
	Precautions:	No information.
	Precautions for safe handling:	No information.
Storage		
0	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	
Ingredient Name		TLV-STEL	TWA	STEL
	None establis hed	100mg/m3 [C]	establis	None establis hed
	establis	None establis hed	establis	None establis hed
	establis	None establis hed	(total	None establis hed

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	No data.
point:	no data.
Initial boiling point	No data.
and boiling range:	
Flash point:	No data.
Auto-ignition	No data.
temperature:	
Upper/lower flammability	No data.
or explosive limits:	
Vapour pressure:	No data.
Vapour density:	No data.
Evaporation rate:	No data.
Specific Gravity:	No data.
Solubility:	water:Completely soluble.
Partition coefficient:	No data.
n-octanol/water:	
Decomposition	No data.
temperature:	

10. Stability and reactivity

11. Toxicological information

Product

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

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

Prod	duct Name: Reactive Dye Ink	Extra Magenta
Ingredient		
Ethylene g	lycol	
	Acute toxicity (oral): Skin corrosion/irritation: Serious eye damage/irritation: Mutagenicity:	LD50: 4700 mg/kg[rat], LD50: 7500 mg/kg[mouse] Mild [rabbit] Mild [rabbit] 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 gly	ycol	
	Ecotoxicity	
	Fish acute toxicity:	24hrLC50: >5000mg/1 -modified ASTM D 1345[Goldfish]
	Daphnia acute toxicity:	48hrEC50: 10000mg/1[Daphnia magna]
	Algae acute toxicity:	lg/l No effect [Scenedesmus subspicatus]
	Persistence and degradability:	Readily biodegradable
Glycerin		
	Ecotoxicity	
	Fish acute toxicity:	24hrLC50:>5000mg/1[Goldfish]
	Daphnia acute toxicity:	24hrEC50:>10000mg/1[Daphnia magna]
	Persistence and degradability:	Readily biodegradable

13. Disposal considerations

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

14. Transport information

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UN Class UN ----
classification:
UN number: ---
Proper shipping ---
name:
Packing group: ---
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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	Ethylene glycol: Reportable Quantities 5000 lb(2270 kg)
Environmental Response SARA Title III (Superfund	None.
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.

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	Konica Minolta, Inc.
supplier: Address: Charge section:	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: Ingredients and Concentration Mixture

Ingredient Name	Concentr ationwt.	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.

PUIENIIAL HEALIH EFFECIS		
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.

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 Use with adequate ventilation. requirements: Precautions: No information. Precautions for safe No information. handling: Storage Keep container tightly closed. Store in a cool and dry place. Storage Conditions: Keep away from incompatible substances (See Section 10). Safety adequate No information. container materials:

8. Exposure controls/personal protection

Appropriate engineering controls:

Use process enclosures or local exhaust ventilation.

Control parameters

Ingredient Name	ACGIH		OSHA-PEL	
ingreurent Name	TLV-TWA	TLV-STEL	TWA	STEL
Ethylene glycol	None	100 mg/m3	None	None
	establis	[C]	establis	establis
	hed		hed	hed
Organic solvent (1)	None	None	None	None
	establis	establis	establis	establis
	hed	hed	hed	hed
Dye	None	None	None	None
	establis	establis	establis	establis
	hed	hed	hed	hed
Organic solvent (2)	None	None	15mg/m3	None
	establis	establis	(total	establis
	hed	hed	dust)	hed

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

Product Name:

Reactive Dye Ink Pink

Personal Protective Equipment

Loonar II	obcourte Equipmente	
	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	No data.
point:	
Initial boiling point	No data.
and boiling range:	
Flash point:	None
Auto-ignition	No data.
temperature:	
Upper/lower flammability	No data.
or explosive limits:	
Vapour pressure:	No data.
Vapour density:	No data.
Evaporation rate:	No data.
Specific Gravity:	No data.
Solubility:	water:Completely soluble.
Partition coefficient:	No data.
n-octanol/water:	
Decomposition	No data.
temperature:	

10. Stability and reactivity

11. Toxicological information

Product

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

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

Product Name:

Reactive Dye Ink Pink

Ingredient Ethylene g		
, ,	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 so	lvent (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
D		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]
0	Mutagenicity:	Ames Test:Negative
Organic so		
	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/1[Daphnia magna]
Algae acute toxicity:	lg/l No effect [Scenedesmus subspicatus]
Persistence and degradability	Readily biodegradable
Organic solvent (1)	
Ecotoxicity	
Fish acute toxicity:	96hrLC50:>100mg/1[Oryzias latipes]
Daphnia acute toxicity:	48hrEC50:>1000mg/1[Daphnia magna]
Algae acute toxicity:	48hrEC50:>1000mg/1[Selenastrum capricornutum]
Persistence and degradability	Readily biodegradable
Organic solvent (2)	
Ecotoxicity	
Fish acute toxicity:	24hrLC50:>5000mg/1[Goldfish]
Daphnia acute toxicity:	24hrEC50:>10000mg/1[Daphnia magna]
Persistence and degradability	Readily biodegradable

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

Product Name:

Reactive Dye Ink Pink

13. Disposal considerations

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

14. Transport information

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

15. Regulatory information

OSHA Hazard Communication This product is NOT considered hazardous under this standard. Standard, 29CFR 1910.1200 : CERCLA (Comprehensive Ethylene glycol: Reportable Quantities 5000 1b(2270 kg) Environmental Response SARA Title III (Superfund None. 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.

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	Konica Minolta, Inc.
supplier:	
Address	2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Charge section:	$(TEL \cdot 01 \ 40 \ EQD \ 9790 \ EAV \cdot 01 \ 40 \ EQD \ 9000)$
	(TEL:+81-42-589-3739, FAX:+81-42-589-3868)

2. Composition/information on ingredients

Substance/Mixture: Ingredients and Concentration Mixture

Ingredient Name	Concentr ationwt. %	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.

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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

nanui ing		
	Technical Measures:	Avoid contact with eyes, skin and clothing. Wear personal protective equipment (See Section 8). Wash thoroughly after handling.
	Ventilation	Use with adequate ventilation.
	requirements:	
	Precautions:	No information.
	Precautions for safe handling:	No information.
Storage	-	
Ū.	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	ACC	ACGIH		OSHA-PEL	
Ingreatent Name		TLV-STEL	TWA	STEL	
Ethylene glycol	None	100mg/m3	None	None	
	establis	[C]	establis	establis	
	hed		hed	hed	
Organic solvent (1)	None	None	None	None	
	establis	establis	establis	establis	
	hed	hed	hed	hed	
Dye	None	None	None	None	
	establis	establis	establis	establis	
	hed	hed	hed	hed	
Organic solvent (2)	None	None	15 mg/m3	None	
	establis	establis	(total	establis	
	hed	hed	dust)	hed	

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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
:Hq	No data.
Melting point/freezing	No data.
point:	
Initial boiling point	No data.
and boiling range:	
Flash point:	No data.
Auto-ignition	No data.
temperature:	
Upper/lower flammability	No data.
or explosive limits:	
Vapour pressure:	No data.
Vapour density:	No data.
Evaporation rate:	No data.
Specific Gravity:	No data.
Solubility:	water:Completely soluble.
Partition coefficient:	No data.
n-octanol/water:	
Decomposition	No data.
temperature:	

10. Stability and reactivity

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

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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	n: 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	n: 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	n: Minimal [rabbit]	
Mutagenicity:	Ames Test:Negative, Chromosomal aberration test:Negative	

12. Ecological information

Product		
	No Data	
Ingredient		
Ethylene g	lycol	
	Ecotoxicity	
	Fish acute toxicity:	24hrLC50: >5000mg/1 -modified ASTM D 1345[Goldfish]
	Daphnia acute toxicity:	48hrEC50: 10000mg/1[Daphnia magna]
	Algae acute toxicity:	lg/l No effect [Scenedesmus subspicatus]
	Persistence and degradability:	Readily biodegradable
Organic so	lvent (1)	
	Ecotoxicity	
	Fish acute toxicity:	96hrLC50:>100mg/1[Oryzias latipes]
	Daphnia acute toxicity:	48hrEC50:>1000mg/1[Daphnia magna]
	Algae acute toxicity:	48hrEC50:>1000mg/1[Selenastrum capricornutum]
	Persistence and degradability:	Readily biodegradable
Organic so		
_	Ecotoxicity	
	Fish acute toxicity:	24hrLC50:>5000mg/1[Goldfish]
	Daphnia acute toxicity:	24hrEC50:>10000mg/1[Daphnia magna]
	Persistence and degradability:	Readily biodegradable

13. Disposal considerations

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

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14. Transport information

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

15. Regulatory information

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