



# Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : Reactive Dye Ink Rc210 Black  
Product Code : SPC-0702K-1  
General Use : Ink Jet Ink  
Product Description : Ink Jet Ink  
MSDS Number : 031-36W19KP  
Manufacture  
Company Name : Mimaki Engineering Co., Ltd  
Address : 2182-3 Otsu, Shigeno, Tomi-shi, Nagano 389-0512 Japan  
Telephone No. : +81-268-64-2413  
Importer/Distributor Established in USA  
Company Name : MIMAKI USA. INC.  
Address : 150 Satellite Boulevard, suite A, Suwanee, Georgia 30024, U.S.A  
Telephone No. : 1-678-730-0100  
Emergency Telephone No. : +81-268-64-2413

## 2. HAZARDS IDENTIFICATION

### WARNING!

### Emergency Overview

Irritating to eyes  
May be harmful if swallowed, inhaled, or absorbed through skin  
Mist or aerosol may be irritating to eyes, nose, throat, and lungs  
May cause central nervous system depression

**Appearance** Black

**Physical State** Liquid.

**Odor** Specific

### Potential Health Effects

**Principle Routes of Exposure** Inhalation. Skin contact. Eye contact.

### Acute Toxicity

**Eyes** Irritating to eyes.

## Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

<b>Skin</b>	May cause irritation. May be harmful if absorbed through skin.
<b>Inhalation</b>	May be harmful if inhaled. Inhalation of aerosols: May cause irritation of respiratory tract. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.
<b>Ingestion</b>	May be harmful if swallowed. May cause adverse liver effects. May cause adverse kidney effects. May cause additional affects as listed under "Inhalation".

**Chronic Effects** May cause adverse liver and kidney effects. May cause central nervous system depression. Contains materials which based on animal tests may cause adverse reproductive and birth effects at maternally toxic levels.

**Main Symptoms** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

**Aggravated Medical Conditions** Central nervous system. Pre-existing eye disorders. Respiratory disorders.

**Interactions with Other Chemicals** Use of alcoholic beverages may enhance toxic effects.

**Environmental Hazard** See Section 12 for additional Ecological Information.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Water	7732-18-5	30-50
Diglycerin	59113-36-9	15-20
Ethylene glycol	107-21-1	15-25
Reactive Dye	Trade Secret	10-20
Additives	Trade Secret	<5



## Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### 4. FIRST AID MEASURES

<b>General Advice</b>	If symptoms persist, call a physician.
<b>Eye Contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.
<b>Inhalation</b>	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing has stopped, contact emergency medical services immediately.
<b>Ingestion</b>	Call a physician or Poison Control Center immediately. Clean mouth with water and afterwards drink plenty of water. Do not induce vomiting without medical advice.
<b>Notes to Physician</b>	Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flammable Properties</b>	Combustible material: may burn but does not ignite readily.
<b>Flash Point</b>	Not determined.
<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b><u>Explosion Data</u></b>	
<b>Sensitivity to Mechanical Impact</b>	None
<b>Sensitivity to Static Discharge</b>	None



## Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

**Protective Equipment and Precautions for Firefighters** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA** Health Hazard 2 Flammability 1 Instability 0 Physical and Chemical Hazards -

**HMIS** Health Hazard 2\* Flammability 1 Physical Hazard 0 Personal Protection -

*\*Indicates a chronic health hazard.*

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions** Wear protective gloves/clothing and eye/face protection. Ensure adequate ventilation. Avoid contact with the skin and the eyes.

**Environmental Precautions** Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** For spills: Absorb with inert absorbent materials such as: Dry sand. Vermiculite. Activated charcoal. Place in appropriate chemical waste container.

### 7. HANDLING AND STORAGE

**Handling** Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place.



## Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethylene glycol 107-21-1	Ceiling: 100 mg/m <sup>3</sup> aerosol only	(vacated) Ceiling: 50 ppm (vacated) Ceiling: 125 mg/m <sup>3</sup>	-

OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value.

#### Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

#### Engineering Measures

Showers  
Eyewash stations  
Ventilation systems

#### Personal Protective Equipment

##### Eye/Face Protection

Safety glasses with side-shields.

##### Skin and Body Protection

Wear protective gloves/clothing.

##### Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.



## Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Black.	<b>Odor</b>	Specific.
<b>Odor Threshold</b>	No information available.	<b>Physical State</b>	Liquid
<b>pH</b>	No information available.		
<b>Flash Point</b>	No information available.	<b>Autoignition Temperature</b>	No information available.
<b>Decomposition Temperature</b>	No information available.	<b>Boiling Point/Range</b>	No information available
<b>Melting Point/Range</b>	No information available		
<b>Flammability Limits in Air</b>	No information available.	<b>Explosion Limits</b>	No information available.
<b>Solubility</b>	No information available	<b>Evaporation Rate</b>	No information available
<b>Vapor Pressure</b>	No data available	<b>Vapor Density</b>	No data available
<b>VOC Content (%)</b>	15-25		

### 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible Products</b>	Strong oxidizing agents. Chlorosulfonic acid, oleum, sulfuric acid, perchloric acid, chromium trioxide, potassium permanganate and sodium peroxide.
<b>Conditions to Avoid</b>	Heat, flames and sparks.
<b>Hazardous Decomposition Products</b>	Sulfur oxides. Nitrogen oxides (NOx). Carbon dioxide (CO <sub>2</sub> ) Carbon monoxide (CO).
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.



## Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### 11. TOXICOLOGICAL INFORMATION

#### Acute Toxicity

##### Product Information

May be harmful by inhalation, ingestion, or skin absorption. Irritating to eyes: Mist or aerosol may be irritating to eyes, nose, throat, and lungs.

#### Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene glycol	4000 mg/kg ( Rat )	9530 $\mu$ L/kg ( Rabbit )	-

#### Chronic Toxicity

##### Chronic Toxicity

May cause adverse liver and kidney effects. May cause central nervous system depression. Contains materials which based on animal tests may cause adverse reproductive and birth effects at maternally toxic levels.

##### Carcinogenicity

Contains no ingredients above reportable quantities listed as a carcinogen.

##### Target Organ Effects

Central nervous system (CNS). Liver, kidney, and respiratory system. Reproductive system. Contains material that may adversely affect the developing fetus.



## Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ethylene glycol	EC50: 6500 - 13000 mg/L Pseudokirchneriella subcapitata 96 h	LC50: 41000 mg/L Oncorhynchus mykiss 96 h LC50: 14-18 ml/L Oncorhynchus mykiss 96 h static LC50: 27540 mg/L Lepomis macrochirus 96 h static LC50: 40761 mg/L Oncorhynchus mykiss 96 h static LC50: 40000-60000 mg/L Pimephales promelas 96 h static LC50: 16000 mg/L Poecilia reticulata 96 h static	EC50 = 10000 mg/L 16 h EC50 = 620 mg/L 30 min EC50 = 620.0 mg/L 30 min	EC50: 46300 mg/L Daphnia magna 48 h

Chemical Name	Log Pow
Ethylene glycol	-1.93





## Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### 13. DISPOSAL CONSIDERATIONS

#### Waste Disposal Methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

#### Contaminated Packaging

Do not re-use empty containers.

### 14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated



## Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### 15. REGULATORY INFORMATION

#### International Inventories

**TSCA** All components are listed on the TSCA Inventory.

**DSL** All components are listed either on the DSL or NDSL.

#### Legend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

#### U.S. Federal Regulations

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

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Ethylene glycol	107-21-1	15-25	1.0

#### SARA 311/312 Hazard Categories

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

#### Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):



## Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Ethylene glycol	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

### U.S. State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Ethylene glycol	X	X	X	X	X

### International Regulations

Chemical Name	Carcinogen Status	Exposure Limits
Ethylene glycol		Mexico: Ceiling= 100 mg/m <sup>3</sup>

### Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

### WHMIS Hazard Class

D2B Toxic materials





Product Name: Reactive Dye Ink Rc210 Black  
MSDS No. 031-36W19KP  
First issue: 2011/01/26  
Revised:  
Page 12 of 12

## Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

Chemical Name	NPRI
Ethylene glycol	X

### Legend

NPRI - National Pollutant Release Inventory

## 16. OTHER INFORMATION

### General Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

### Revision history

Version	Date	Content
1.0	2011/01/26	First Issue