Safety Data Sheets

1. Identification

Product Name	: Reactive Dye Ink Rc300 Black
Order No.	: RC300-K-BB / RC300-K-2L
Ink Ver.	: 3
General Use	: Ink jet printing ink
Product Description	: Ink jet printing ink
SDS Number	: 037-W310794
Manufacture	
Company Name	: Mimaki Engineering Co., Ltd.
Address	: 2182-3 Shigeno-otsu, 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 NE , suite A, Suwanee, Georgia 30024, U.S.A.
Telephone No.	: +1-678-730-0170
Emergency Telephone No.	: +1 866 928 0789 (within United States only, Toll free) +1 215 207 0061

2. Hazards Identification

[GHS Classification]

Physical Hazards

Flammable Liquids	: Not classified

Health Hazards

Eye Damage / Irritation	: Category 2
Sensitization – Skin	: Category 1
Specific Target Organ Toxicity (Single Exposure)	: Category 1 (central nervous system, kidneys, heart, respiratory system)
Specific Target Organ Toxicity (Repeated Exposure)	: Category 1 (central nervous system, heart, respiratory system)

The above list does not include category being non-classifiable or not-applicable.

[GHS Label Elements]

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Symbol

Signal Word
Danger

Hazard Statements
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H370 Causes damage to central nervous system, kidneys, heart, and respiratory system.
H372 Causes damage to central nervous system, heart, and respiratory system through prolonged or repeated exposure

Precautionary Statements
[Prevention]
P260 Do not breathe gas/mist.
P264 Wash hands and eyes thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
[Response]
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.
P314 Get medical advice/attention if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash before reuse.
[Storage]
P405 Store locked up.
[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

3. Composition / Information on Ingredients

No	Chemical Name	Wt%	CAS No.
1	Water	50-70	7732-18-5
2	Ethylene glycol	10-20	107-21-1
3	Glycerols	5-15	Trade Secret
4	Urea	<5	57-13-6
5	Reactive Dye	10-20	Trade Secret
6	Additives	1-5	Trade Secret

4. First Aid Measures

Inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.
Eye Contact	: Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin Contact	: Wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. If skin irritation or rash occurs: Get medical advice/attention.
Ingestion	: If swallowed, get medical attention.

5. Fire Fighting Measures

Flammable Properties	: Flash point Not flammable
Extinguishing Media	: carbon dioxide, regular dry chemical, water spray, alcohol resistant foam
Unsuitable Extinguishing Media	: Do not scatter spilled material with high-pressure water streams.
Special Hazards Arising from the Chemical	: Negligible fire hazard.
Hazardous Combustion Products	: oxides of carbon, cyanide compounds, ammonia, and oxides of nitrogen.
Fire Fighting Measures	: Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Avoid inhalation of material or combustion by-products.
Special Protective Equipment and Precautions for Firefighters	: Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures	: Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.
Methods and Materials for Containment and Cleaning Up	: Eliminate all ignition sources if safe to do so. Stop leak if possible without personal risk. Reduce vapors with water spray. **Small spills:** Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. **Large spills:** Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

7. Handling and Storage

Precautions for Safe Handling	: Do not breathe gas/mist. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.
Conditions for Safe Storage, including any Incompatibilities	: Store locked up.Store and handle in accordance with all current regulations and standards. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Keep separated from incompatible substances.

8. Exposure Controls / Personal Protection

Exposure Limit Values	: **Ethylene glycol (107-21-1)** OSHA PEL: 50ppm Ceiling; 125mg/m3 Ceiling ACGIH TLV-C: 100 mg/m3 Ceiling (aerosol only) NIOSH: 50ppm Ceiling Mexico 100 mg/m3 Ceiling (aerosol)
Component Biological Limit Values	: There are no biological limit values for the component(s) of this product.

Exposure Controls

Occupational Exposure Controls

Appropriate Engineering Controls : Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection

Respiratory Protection : Consult with a health and safety professional for specific respirators appropriate for your use.

Hand Protection : Wear appropriate chemical resistant gloves.

Eye Protection : Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection : Wear appropriate chemical resistant clothing.

9. Physical and Chemical Properties

Appearance	- Physical State	: Liquid
	- Color	: Black
Odor		: characteristic odor
pH		: 8-10 (25℃)
Boiling Point / Boiling Range		: Not available
Melting Point / Melting Range		: Not available
Decomposition Temperature		: Not available
Flash Point		: Not flammable
Auto ignition temperature		: Not available
Flammability (Solid, Gas)		: Not available

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Explosive Properties	: Not available
Oxidizing Properties	: Not available
Upper / Lower Flammability or Explosive Limits	: Not available
Vapor Pressure	
Specific Gravity	: 1.1-1.2 (25 ° C)
Solubility	: Not available
Water Solubility	: Soluble
Partition Coefficient (n-octanol / Water)	: Not available
Viscosity	: 4-6 mPa·s (25 °C)
Vapor Density	: Not available
Evaporation Rate	: Not available
Surface tension	: 30-36mN/m

10. Stability and Reactivity

Reactivity	: No reactivity hazard is expected.
Chemical Stability	: Stable under normal conditions of use.
Possibility of Hazardous Reactions	: Will not polymerize.
Conditions to Avoid	: Avoid flames, sparks, and other sources of ignition. Avoid contact with incompatible materials.
Incompatible Materials	: acids, bases, combustible materials, oxidizing materials, reducing agents, metals, metal salts, combustible materials
Hazardous Decomposition	: Combustion: oxides of carbon, cyanide compounds, ammonia, and oxides of nitrogen

11. Toxicological Information

Acute Toxicity Component Analysis - LD50/LC50 : The component(s) of this material have been reviewed in various sources and the following selected endpoints are published:

Ethylene glycol (107-21-1)

Oral LD50 Rat 4700 mg/kg; Dermal LD50 Rabbit 10600mg/kg

Urea (57-13-6)

Oral LD50 Rat 8471 mg/kg

Immediate Effects	: eye irritation, allergic skin reaction, central nervous system damage, heart damage, kidney damage, respiratory damage.
Delayed Effects	: allergic skin reaction, central nervous system damage, heart damage, respiratory damage, kidneys damage
Irritation/Corrosivity Data	: eye irritation.
Respiratory Sensitization	: No information available for the product.
Dermal Sensitization	: Available data characterizes components of this product as dermal sensitization hazards.
Carcinogenicity	: Component Carcinogenicity **Ethylene glycol (107-21-1)** ACGIH: A4 - Not Classifiable as a Human Carcinogen
Mutagenic Data	: No information available for the product.
Reproductive Effects Data	: No information available for the product.
Specific Target Organ Toxicity - Single Exposure	: central nervous system, kidneys, heart, respiratory system
Specific Target Organ Toxicity - Repeated Exposure	: central nervous system, heart, respiratory system
Aspiration Hazard	: Not expected to be an aspiration hazard.
Medical Conditions Aggravated by Exposure	: kidney disorders, skin disorders and allergies, eye disorders, respiratory disorders, heart disorders.

12. Ecological Information

Handling is noted because it might influence the environment when leaking and abandoning it.
Especially, note that the product doesn't flow directly to ground, the river, and the drain ditch.

Component Analysis - Aquatic Toxicity	: **Ethylene glycol (107-21-1)** Fish: 96 Hr LC50 Oncorhynchus mykiss: 41000 mg/L; 96 Hr LC50 Oncorhynchus mykiss: 14 - 18 mL/L [static]; 96 Hr LC50 Lepomis

	macrochirus: 27540 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 40761 mg/L [static]; 96 Hr LC50 Pimephales promelas: 40000 - 60000 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 16000 mg/L [static] Algae: 96 Hr EC50 Pseudokirchneriella subcapitata: 6500 - 13000 mg/L Invertebrate: 48 Hr EC50 Daphnia magna: 46300 mg/L
	Urea (57-13-6)
	Fish: 96 Hr LC50 Poecilia reticulata: 16200-18300 mg/L Invertebrate: 24 Hr EC50 Daphnia magna Straus: >10000 mg/L; 48 Hr EC50 Daphnia magna: 3910 mg/L [Static]
Persistence and Degradability	: No information available for the product.
Bioaccumulation	: No information available for the product.
Mobility	: No information available for the product.
Other Toxicity	: No additional information is available.

13. Disposal Considerations

	: Comply with all USA, national and local regulations. Do not dump this product into sewers, on the ground or into any body of water.
Disposal Methods	: Dispose in accordance with all applicable regulations.
Component Waste Numbers	: The U.S. EPA has not published waste numbers for this product's components.
Disposal of Contaminated Packaging	: Empty containers may contain product residue. Dispose in accordance with all applicable regulations.

14. Transport Information

	Check a thing without a leak in a container. Perform prevention of collapse of cargo surely.
US DOT Information	: Not regulated as a hazardous material for transport.
TDG Information	: Not regulated as dangerous goods for transport.
IATA Information	: Not regulated as dangerous goods for transport.
ICAO Information	: Not regulated as dangerous goods for transport.
IMDG Information	: Not regulated as dangerous goods for transport.

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UN Number : Not regulated

Marine Pollutants (IMDG) : Not regulated as dangerous goods for transport.

International Bulk Chemical Code : This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

No	Chemical Name (CAS No.)	IBC Code
1	Ethylene glycol (107-21-1)	Category Y
2	Glycerols(Trade Secret)	Category Z
3	Urea (57-13-6)	Category Z

15. Regulatory Information

U.S. Federal Regulations : This material contains one or more of the following chemicals required to be identified under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Ethylene glycol (107-21-1)

SARA 313: 1.0 % de minimis concentration

CERCLA: 5000 lb final RQ; 2270 kg final RQ

U.S. State Regulations : The following components appear on one or more of the following state hazardous substances lists

Component	CA	MA	MN	NJ	PA
Ethylene glycol (CAS No. 107-21-1)	Yes	Yes	Yes	Yes	Yes
Urea (CAS No. 57-13-6)	No	No	Yes	No	No

California Proposition 65 : **WARNING:**

This product can expose you to chemicals including Ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Canadian WHMIS Ingredient Disclosure List (IDL) : Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included

in products which fall under WHMIS criteria specified in the Controlled Products Regulations and present above the threshold limits listed on the IDL.

Ethylene glycol (107-21-1) 1 %

16. Other Information

Key/Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; CAS - Chemical Abstracts Service; CLP - Classification, Labelling and Packaging; EEC - European Economic Community; EIN (EINECS) - European Inventory of Existing Commercial Chemical Substances; ELN (ELINCS) - European List of Notified Chemical Substances; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; IBC Code - International Bulk Chemical Code; Kow - Octanol/water partition coefficient; LEL - Lower Explosive Limit; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NTP = National Toxicology Program; REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - European Rail Transport; STEL - Short-term Exposure Limit; TWA - Time Weighted Average; UEL - Upper Explosive Limit

Other Information

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation.

It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process.

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