



Product Name: Dye Sublimation Ink Sb210

Light Cyan

MSDS No.: 031-36W183P

First issue: Dec 24, 2010

Revised: Feb 4, 2011

Page 1 of 11

Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

1. Product and Company Identification

Product Name : Dye Sublimation Ink Sb210 Light Cyan
Product Code : SPC-0700LC-1
General Use : Ink jet printing ink
Product Description : Dye Sublimation Ink
MSDS Number : 031-36W183P
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 cause sensitization by skin contact
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 : Cyan
Physical State : Liquid
Odor : Specific
Potential Health Effects
Principle Routes of Exposure : Inhalation. Skin contact. Eye contact.
Acute Toxicity
Eyes : Irritating to eyes.
Skin : May cause irritation. May cause sensitization by skin contact.
May be harmful if absorbed through skin.



Product Name: Dye Sublimation Ink Sb210

Light Cyan

MSDS No.: 031-36W183P

First issue: Dec 24, 2010

Revised: Feb 4, 2011

Page 2 of 11

Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

Inhalation : 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.

Ingestion : May be harmful if swallowed. May cause adverse liver effects. May cause adverse kidney effects. May cause additional affects as listed upper "Inhalation".

Chronic Effects : Prolonged exposure may cause chronic effects. Repeated contact may cause allergic reactions in very susceptible persons. 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

SUBSTANCE/MIXTURE : Mixture

No	Chemical Name	Wt%	CAS No.	Chemical Formula
1	Ethylene glycol	40-60	107-21-1	C ₂ H ₆ O ₂
2	Propylene glycol	1-10	57-55-6	C ₃ H ₈ O ₂
3	Diglycerol	1-20	59113-36-9	C ₆ H ₁₄ O ₅
4	Disperse dye	1-10	Trade Secret	Trade Secret
5	Water	20-50	7732-18-5	H ₂ O
6	Additives	<10	Trade Secret	Trade Secret

OSHA Hazardous : Component 1 is hazardous component.

Components

(29 CFR 1910. 1200)

Material Safety Data Sheets

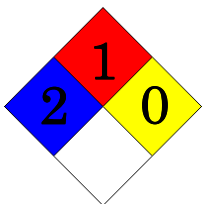
CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.


4. First Aid Measures

- General Advice : If symptoms persist, call a physician.
- Eye Contact : 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.
- Skin Contact : Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.
- Inhalation : 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.
- Ingestion : 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.
- Notes to Physician : Treat symptomatically.

5. Fire Fighting Measures

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



Product Name: Dye Sublimation Ink Sb210

Light Cyan

MSDS No.: 031-36W183P

First issue: Dec 24, 2010

Revised: Feb 4, 2011

Page 4 of 11

Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

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. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product.
- Storage : Keep container tightly closed in a dry and well-ventilated place.

8. Exposure Controls / Personal Protection

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethylene glycol CAS No 107-21-1	Ceiling: 100 mg/m ³ aerosol only	Ceiling: 50ppm (vacated) Ceiling: 125 mg/m ³ (vacated)	-

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

Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

Personal Protective Equipment

Eye/Face Protection : Safety glasses with side-shields.

**Safety Glasses**

Skin and Body Protection : Wear protective gloves/clothing.

**Gloves****Boots****Protective Apron**

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.

**Vapor Respirator**

Hygiene Measures : Handle in accordance with good industrial hygiene and safety practice.

9. Physical And Chemical Properties

Appearance	- Physical state	: Liquid
	- Color	: Cyan
Odor		: Specific
Odor Threshold		: No information available.
pH		: 6-8
Boiling Point / Boiling Range		: No information available.
Melting Point / Melting Range		: No information available.
Decomposition Temperature		: No information available.
Flash Point		: No information available.
Autoignition Temperature		: No information available.
Flammability Limits in Air		: No information available.
Explosion Limits		: No information available.
Vapor Pressure		: No data available



Product Name: Dye Sublimation Ink Sb210

Light Cyan

MSDS No.: 031-36W183P

First issue: Dec 24, 2010

Revised: Feb 4, 2011

Page 6 of 11

Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

Specific Gravity	: 1.0-1.2(25 degree C)
Solubility	: No information available.
Water solubility	: Soluble in water
Viscosity	: 9-11mPa.s(25 degree C)
Vapor Density	: No data available
Evaporation Rate	: No information available
VOC Content (%)	: 60-80

10. Stability And Reactivity

Conditions to Avoid	: Heat, flames and sparks.
Stability	: Stable under recommended storage conditions.
Incompatible Products	: Strong oxidizing agents. Chlorosulfonic acid, oleum, sulfuric acid, perchloric acid, chromium trioxide, potassium permanganate and sodium peroxide.
Hazardous Decomposition Products	: Sulfur oxides. Nitrogen oxides (NO _x). Carbon dioxide (CO ₂) Carbon monoxide (CO).
Hazardous Polymerization	: Hazardous polymerization does not occur.

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 µL/kg (Rabbit)	-
Propylene glycol	20000 mg/kg (Rat)	20800 mg/kg (Rabbit)	-
Additives	1020 mg/kg (Rat)	-	-



Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

Chronic Toxicity

Chronic Toxicity : Prolonged exposure may cause chronic effects. Repeated contact may cause allergic reactions in very susceptible persons. 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.

Sensitization : May cause sensitization by skin contact.

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

12. Ecological Information

Ecotoxicity

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

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



Product Name: Dye Sublimation Ink Sb210

Light Cyan

MSDS No.: 031-36W183P

First issue: Dec 24, 2010

Revised: Feb 4, 2011

Page 8 of 11

Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

Propylene glycol	Toxicity to Algae	= 19000 mg/L: EC50 96 h (Pseudokirchneriella subcapitata)
	Toxicity to Fish	41 - 47 mL/L: LC50 96 h static (Oncorhynchus mykiss) = 51400 mg/L: LC50 96 h static (Pimephales promelas) = 51600 mg/L: LC50 96 h static (Oncorhynchus mykiss) = 710 mg/L: LC50 96 h (Pimephales promelas)
	Toxicity to Microorganisms	EC50 = 710 mg/L 30 min
	Daphnia Magna (Water Flea)	> 1000 mg/L: EC50 48 h Static (Daphnia magna) > 10000 mg/L: EC50 24 h (Daphnia magna)

Chemical Name	Log Pow
Ethylene glycol	-1.93
Additives	1.3

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

DOT : Not regulated
TDG : Not regulated
MEX : Not regulated
ICAO : Not regulated
IATA : Not regulated
IMDG/IMO : Not regulated



Product Name: Dye Sublimation Ink Sb210

Light Cyan

MSDS No.: 031-36W183P

First issue: Dec 24, 2010

Revised: Feb 4, 2011

Page 9 of 11

Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

RID : Not regulated

ADR : Not regulated

ADN : Not regulated

UN No.: Not regulated

15. Regulatory Information

International Inventories

TSCA : All components are listed on the TSCA Inventory.

DSL : Additives Does not comply

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	40-60	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard : Yes

Chronic Health Hazard : Yes

Fire Hazard : No

Sudden Release of Pressure Hazard : No

Reactive Hazard : 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).

Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

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):

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
Propylene glycol	X	-	X	-	X

International Regulations

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

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
D2A Very toxic materials



Chemical Name	NPRI
Ethylene glycol	X

Legend

NPRI - National Pollutant Release Inventory



Product Name: Dye Sublimation Ink Sb210

Light Cyan

MSDS No.: 031-36W183P

First issue: Dec 24, 2010

Revised: Feb 4, 2011

Page 11 of 11

Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

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	Dec 24, 2010	First issue.
2.0	Feb 4, 2011	Revised