Material Safety Data Sheets

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

1. Product and Company Identification

Product Name	: UV Ink White
Product Code	: SPC-0371 W-5
General Use	: For ink jet
Product Description	: UV curable ink
MSDS Number	: 031-34U01WC
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

Emergency Overview

: ADVERSE HUMAN HEALTH HAZARDS
Irritating to eyes, respiratory system and skin.
May cause sensitization by skin contact.
: ENVIRONMENTAL EFECTS
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Potential Health Effects

Inhalation	: Irritating to respiratory system.
Eye Contact	: Irritating to eyes.
Skin Contact	: Irritating to skin. May cause sensitization by skin contact.
Carcinogens	: Contains a chemical or chemicals which can cause cancer.

Ingredient	: Titanium dioxide (TiO2)
CAS No.	: 13463-67-7
Class Description	: Group 2B
Regulation	: International Agency for Research on Cancer

Potential Environmental Effects : Toxic to aquatic organism. May cause long-time adverse effects in the aquatic environment.

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Hazard Label

Xi : Irritant

HMIS Rating (scale 0 – 4)

Health = 1

Flammability= 1

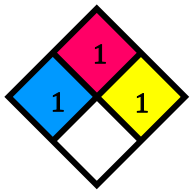
Physical Hazard = 1

NFPA Rating (scale 0 – 4)

Health = 1

Flammability = 1

Instability =1



3. Composition / Information On Ingredients

No	Chemical Name	Wt%	CAS No.	Chemical Formula
1	Acrylates	70 - 80	Registered	-
2	Titanium dioxide	< 20	13463-67-7	TiO2
3	Additives	< 15	Registered	-

4. First Aid Measures

Inhalation : Remove the victim from the contamination immediately to fresh air. Keep the victim warm and quiet and arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.

Eye Contact : Gently rinse the affected eyes with clean water for at least 15 minutes. Remove contact lenses if easily possible. And refer for medical attention.

Skin Contact : Remove all contaminated clothing, shoes and socks from the affected areas as quickly as possible. Wash the affected area under running water using a mild soap.
If irritation persists, arrange for transport to the nearest medical facility for examination and treatment by physician as soon as possible.

Ingestion : Never give anything by mouth to someone who is unconscious or convulsing. If the victim is responsive, give him one or two glasses of water. And refer for medical attention.

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5. Fire Fighting Measures

Flammable Properties	Autoignition temperature	: No Data Available
	Flash Point	: 134 degree C [Test Method: Cleveland Open Cup]
	Flammable Limits – LEL	: No Data Available
	Flammable Limits – UEL	: No Data Available
Extinguishing Media	: Dry chemical powder, form or dioxide.	
Fire Fighting Instructions	: Fight fire from maximum distance. Shut off fuel to fire if possible to do so without hazard. Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (self-contained breathing apparatus).	

6. Accidental Release Measures

Shut off all sources of ignition; No smoking or flames in area.
Wear proper protective equipment.
Absorb spill with inert material (e.g., dry sand or earth), then place in closed containers using non-sparking tools.
Prevent spills from entering sewers, watercourses or low areas.
Do not wash away into shower or waterway.

7. Handling And Storage

Handling	: Use only in the well-ventilated areas. Make available in the work area emergency shower and eyes wash. Avoid contact with skin or eyes. Only use tools and equipment resistant to organic solvent. Do not flush to sewer or waterways.
Storage	: Store product in tightly closed original containers in dry and cool place protected from sunlight fluorescent light, preferably at below 25 degree C on impermeable ground. Keep away from sources of ignition.

8. Exposure Controls / Personal Protection

Exposure Limit Values

Chemical Name		TWA
Titanium dioxide (TiO2)	OSHA	15mg/m3
	ACGIH	10mg/m3

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Source of exposure limit data:
OSHA: Occupational Safety and Health Administration
ACGIH: American Conference of Governmental Industrial Hygienists

Exposure Controls

Occupational Exposure Controls

Engineering Controls : Do not use in areas without adequate ventilation.

Personal hygiene and protective equipment
: Follow the general guidelines of good industrial hygiene. Avoid any contact with the product. Never breathe product vapor.

Personal Protection

Respiratory Protection : Chemical cartridge respirator with an organic vapor cartridge.

Hand Protection : Impermeable gloves.

Eye Protection : Chemical safety glasses.

Skin Protection : Long sleeve clothing, resistant to solvents.

9. Physical And Chemical Properties

Appearance	- Physical state	: liquid
	- Color	: White
Odor		: Characteristic odor
pH		: Not applicable
Boiling Point / Boiling Range		: No data available
Melting Point / Melting Range		: No data available
Flash Point		: 134 degree C
Auto-Ignition Temperature		: No data available

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Explosive Properties	: No data available
Flammable Limits	: No data available
Vapour Pressure	: Not available
VOC	: Not applicable
Specific Gravity	: 1.1 – 1.2 [Ref Std: WATER=1]
Solubility	: Miscible in organic solvent
Water solubility	: Insoluble
Viscosity	: 15 – 25 mPa･s (25 degree C)
Surface tension	: 28 – 33 mN/m (25 degree C)

10. Stability And Reactivity

Conditions To Avoid	: Heat, sunlight (may result in polymerization)
Stability	: Stable under the usual handling conditions.
Materials To Avoid	: Oxidizing agents, strong bases, and transition metals (possible polymerization)

11. Toxicologocal Information

Acute Toxicity	: Not available
Eye Irritation	: The product may cause a moderate irritation to the eyes, followed by burning sensation, tearing, and redness.
Skin Irritation	: Skin contact may result in delayed irritation and blistering.
Sensitization	: Not available
Mutagenicity	: Not available
Carcinogenicity	: May cause cancer; Titanium dioxide (CAS. No. 13463-67-7) (IARC: 2B)
Others	: No significant symptoms of any adverse health hazard is expected to occur by ingestion of the product. Due to the low vapor pressure, inhalation is no primary route of entry. Irritations of the respiratory tract may be caused by inhalation of product vapors or mists in high concentration (List 1).

12. Ecological Information

No data is available about ecotoxicological potential of the product.
Never release product into the environment. Decant and purify polluted waste before its release into the drains.

Ecotoxicity	: Not available
Persistence And Degradability	: Not available
Bioaccumulative Potential	: Not available
Other Adverse Effects	: Not available

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13. Disposal Considerations

: Scrap materials may be disposed by licensed contractor or burn in approved incinerator.
Comply with all USA, national and local regulations.

Do not dump this product into sewers, on the ground or into any body of water.

14. Transport Information

Perform prevention of collapse of cargo surely.
Follow all regulation in your country.

Us Department of Transportation (DOT)

Hazardous Materials	: Not Applicable

Sea Transport (IMDG)

Class	: 9 Miscellaneous dangerous substances and articles.
Packing Group (PG)	: Ⅲ
UN Number	: 3082
Marine Pollutant	: No

Air Transport (ICAO/IATA)

Class	: 9 Miscellaneous dangerous substances and articles.
Packing Group(PG)	: Ⅲ
UN Number	: 3082

15. Regulatory Information

Follow all regulations in your country.

OSHA Status	: This product is NOT considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).
TSCA Status	: All components comprising this product are listed on or exempt from TSCA inventory.
SARA TitleⅢ	
Section 302 (40 CFR 355)	- Extremely Hazardous Substance (EHS) : This product does not contain any chemicals regulated under Section 302 (40 CFR 355) as extremely hazardous substances.
Section 304 (40 CFR 302)	- Comprehensive Amendments and Reauthorization and Liability Act (CERCLA) : This product does not contain any chemicals regulated under Section 304 (40 CFR 302) as hazardous chemical for emergency release notification (CERCLA List).

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Section 313 (40 CFR 372)	- Toxic Chemical List (TCL) : This product does not contain a toxic chemicals for under Section 313 (40 CFR 372.65)

Others

California Proposition 65	: This product does not contain any chemicals currently listed on the California list known Carcinogens and Reproductive Toxins.
Warning Sign	: Xi (Irritant)
Risk information	: Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Titanium dioxide (TiO2), IARC Group 2B, is possibly carcinogenic to humans.
Safety Information	: Avoid contact if swallowed. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves. Use appropriate container to avoid environmental contamination.

16. 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 dose not relate to use in combination with any other material or process.
Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this information.

Revision history

Version	Date	Content
1.0	2008/06/20	First issue