Safety Data Sheet

Product Identifier: SS22 White
SDS No. 037-S338916
First issue: 2023/03/26
Revised: 2025/04/08

1. IDENTIFICATION

Product Identifier	SS22 White
Product code	SS22-W-50
Recommended use of the chemical and restrictions on use	Ink for ink jet printer
Manufacturer	MIMAKI ENGINEERING CO., LTD. 2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 JAPAN +81-268-64-2413
Importer / Distributor	MIMAKI USA, INC. 4851 Thurmon Tanner Parkway, STE 100 Flowery Branch, GA 30542, U.S.A. +1-678-730-0170
Emergency Telephone No.	+1 866 928 0789 (within United States only, Toll free) +1 215 207 0061

2. HAZARDS IDENTIFICATION

Classification of the chemical in accordance with paragraph (d) of 29 CFR § 1910.1200

Flammable Liquids Category 4
Serious Eye Damage/Eye Irritation Category 2A
Reproductive Toxicity Category 2

GHS Label Elements

Symbols

Signal Word: Danger

Hazard Statements:
H227 Combustible liquid.
H319 Causes serious eye irritation.
H361 Suspected of damaging fertility or the unborn child.

Precautionary Statements

Prevention:
Obtain SDS (Safety Data Sheet) and printer's Operation Manual before use. (P201)
Do not handle until all safety precautions have been read and understood. (P202)
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)
Wear protective gloves, protective clothing, eye protection and face protection. (P280)

Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

(P305+P351+P338)

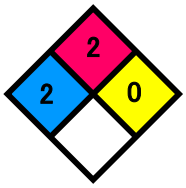
IF exposed or concerned: Get medical advice/ attention. (P308+P313)
IF eye irritation persists: Get medical advice/attention. (P337+P313)
In case of fire: Use alcohol resistant foam or normal protein foam to extinguish. (P370+P378)

Storage: Store locked up. (P405)
Store in a well-ventilated place. Keep cool. (P403+P235)

Disposal: Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. (P501)

NFPA Hazard Rating

Health	2
Flammability	2
Reactivity	0
Specific hazard	Not applicable



3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances or mixtures: Mixtures

Chemical name	Contents	CAS number
Glycol ether solvent	60-70	Trade secret
Heterocyclic compound	1-10	Trade secret
Vinyl resin	1-10	Trade secret
Titanium dioxide	10-20	13463-67-7

4. FIRST-AID MEASURES

In case of inhalation: If fumes, aerosols or combustion products are inhaled remove from contaminated area.
Other measures are usually unnecessary.

In case of skin contact: Immediately remove all contaminated clothing, including footwear.
Flush skin and hair with running water (and soap if available).
Seek medical attention in event of irritation.

In case of eye contact: If this product comes in contact with the eyes:
Wash out immediately with fresh running water.
Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
Seek medical attention without delay; if pain persists or recurs seek medical attention.
Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

In case of ingestion: Immediately give a glass of water.

First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed
See Section 11
Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Foam, Dry chemical powder, BCF (where regulations permit), Carbon dioxide and Water spray or fog – Large fires only.
Unsuitable extinguishing media	Cylindric water.
Specific hazards arising from the chemical	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.
Special protective equipment and precautions for fire-fighters	Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire.
Fire/Explosion Hazard	Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). May emit acrid smoke. Mists containing combustible materials may be explosive. Combustion products include carbon dioxide (CO2) and other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8
Environmental precautions	See section 12

Methods and materials for containment and cleaning up

Minor Spills	Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.
Major Spills	Moderate hazard. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. No smoking, naked lights or ignition sources. Increase ventilation. Stop leak if safe to do so. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite. Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. If contamination of drains or waterways occurs, advise emergency services.

7. HANDLING AND STORAGE

Precautions for safe handling

Safe handling	Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. Avoid smoking, naked lights or ignition sources. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Use good occupational work practice.

	Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions. DO NOT allow clothing wet with material to stay in contact with skin.
Other information	Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.
Conditions for safe storage, including any incompatibilities	
Storage incompatibility	Avoid reaction with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits (OEL)

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	Vinyl resin	Particulates Not Otherwise Regulated (PNOR)- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	Vinyl resin	Particulates Not Otherwise Regulated (PNOR)- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	Vinyl resin	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	Vinyl resin	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	Vinyl resin	Particulates not otherwise regulated	Not Available	Not Available	Not Available	See Appendix D
US OSHA Permissible Exposure Limits (PELs) Table Z-1	Titanium dioxide	Titanium dioxide - Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	Titanium dioxide	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible	Titanium	Inert or Nuisance Dust:	15 mg/m3 /	Not Available	Not Available	Not Available

Exposure Limits (PELs) Table Z-3	dioxide	Total Dust	50 mppcf			
US NIOSH Recommended Exposure Limits (RELs)	Titanium dioxide	Titanium dioxide	Not Available	Not Available	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
Vinyl resin	120 mg/m3	1,300 mg/m3	7,900 mg/m3
Titanium dioxide	30 mg/m3	330 mg/m3	2,000 mg/m3

Ingredient	Original IDLH	Revised IDLH
Glycol ether solvent	Not Available	Not Available
Heterocyclic compound	Not Available	Not Available
Vinyl resin	Not Available	Not Available
Titanium dioxide	5,000 mg/m3	Not Available

Exposure controls

Appropriate engineering controls	General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas.
Individual protection measures, such as personal protective equipment	
Respiratory protection	Consult with a health and safety professional for specific respirators appropriate for your use.
Hand protection	Wear chemical protective gloves, e.g. PVC.
Eye protection	Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin and body protection	Wear safety footwear or safety gumboots, e.g. Rubber. Overalls. P.V.C. apron.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical State	Liquid
Color	White
Odor	Fragrant
Odor threshold	Not Available
pH	Not Available
Melting point	Not Available
Boiling point	Not Available
Flash point	64.5℃
Evaporation rate	Not Available

Flammability(Solid,Gas)	Combustible.
Flammability or explosive limits	
Lower Limit	Not Available
Upper Limit	Not Available
Vapor pressure	Not Available
Vapor density	Not Available
Specific Gravity (Density)	1.0-1.1 (Relative density. Water = 1)
Solubility	Not Available
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Viscosity	Not Available

10. STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the

skin prior to the use of the material and ensure that any external damage is suitably protected.

Eye: If applied to the eyes, this material causes severe eye damage.

Chronic: Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.

Ingredient	TOXICITY	IRRITATION
As a product	Not Available	Not Available
Glycol ether solvent	dermal (rat) LD50: >2000 mg/kg[1] Inhalation(Rat) LC50: >5.14 mg/l 4h[1] Oral (Rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating) [1] Skin: no adverse effect observed (not irritating) [1]
Heterocyclic compound	Dermal (rabbit) LD50: >2000 mg/kg[1] Oral (Rat) LD50: 300-2000 mg/kg[1]	Eye (rabbit) : Severe Eye: adverse effect observed (irritating) [1] Skin (rabbit) : mild Skin: no adverse effect observed (not irritating) [1]
Vinyl resin	Not Available	Not Available
Titanium dioxide	Dermal (hamster) LD50: >=10000 mg/kg[2] Inhalation (Rat) LC50: >2.28 mg/l4h[1] Oral (Rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1] Skin (Human): 300ug/3D (intermittent) - Mild Skin: no adverse effect observed (not irritating)[1]

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity
2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

12. ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
As a product	Not Available	Not Available	Not Available	Not Available	Not Available
Glycol ether solvent	EC50	72h	Algae or other aquatic plants	>89.5mg/l	2
	EC50	48h	Crustacea	>93.6mg/l	2
	LC50	96h	Fish	>90.8mg/l	2
	NOEC(ECx)	504h	Crustacea	10mg/l	2
Heterocyclic compound	EC50	72h	Algae or other aquatic plants	>100mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
	NOEC(ECx)	96h	Fish	>=100mg/l	2
	LC50	96h	Fish	100mg/l	2
Vinyl resin	Not Available	Not Available	Not Available	Not Available	Not Available

Titanium dioxide	EC50	96h	Algae or other aquatic plants	179.05mg/l	2
	BCF	1008h	Fish	<1.1-9.6	7
	EC50	72h	Algae or other aquatic plants	3.75-7.58mg/l	4
	NOEC(ECx)	672h	Fish	>=0.004mg/l	2
	EC50	48h	Crustacea	1.9mg/l	2
	LC50	96h	Fish	1.85-3.06mg/l	4

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Glycol ether solvent	LOW	LOW
Heterocyclic compound	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
Glycol ether solvent	LOW (LogKOW = 0.0093)
Heterocyclic compound	LOW (LogKOW = -0.3135)

Mobility in soil

Ingredient	Mobility
Glycol ether solvent	LOW (KOC = 10)
Heterocyclic compound	LOW (KOC = 15.13)

13. DISPOSAL CONSIDERATIONS

Product / Packaging disposal

Legislation addressing waste disposal requirements may differ by country, state and/ or territory.
Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.
Do not dump this product into sewers, on the ground or into any body of water.

14. TRANSPORT INFORMATION

Labels Required

Marine Pollutant: NO

Land transport (DOT)	NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
Air transport (ICAO-IATA / DGR)	NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
Sea transport (IMDG-Code / GGVSee)	NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
Transport in bulk according to Annex II of MARPOL and the IBC code	Not Applicable

15. REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

Glycol ether solvent is found on the following regulatory lists
US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants
US EPCRA Section 313 Chemical List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Heterocyclic compound is found on the following regulatory lists
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification Requirements
US TSCA Section 5(a)(2) - Significant New Use Rules (SNURs)

Vinyl resin is found on the following regulatory lists
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5
US DOE Temporary Emergency Exposure Limits (TEELs)
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Titanium dioxide is found on the following regulatory lists
Chemical Footprint Project - Chemicals of High Concern
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5

US - California Proposition 65 - Carcinogens
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know Hazardous Substances
US - Pennsylvania - Hazardous Substance List
US DOE Temporary Emergency Exposure Limits (TEELs)
US New York City Community Right-to-Know: List of Hazardous Substances
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Federal Regulations
Superfund Amendments and Reauthorization Act of 1986 (SARA)
Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	Yes
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	Yes
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)
None Reported
US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

This product contains the following EPCRA section 313 chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know-Act of 1986 (40 CFR 372):

CAS No	wt%	Name
Not Available	60-70	Glycol ether solvent

This information must be included in all SDSs that are copied and distributed for this material.

State Regulations

US. California Proposition 65

: **WARNING**

This product can expose you to chemicals including Titanium dioxide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

16. OTHER INFORMATION

Literature References	SDS of raw material
Other data	The information suggested in this Safety Data Sheet does not comprehend everything and should be adopted only as a guide. The accuracy of the information and recommendations suggested herein are credible. However the company makes no warranty regarding such information and recommendations and disclaims all liability for reliance thereon.