Safety Data Sheet

Product Identifier: SS22 ink White
SDS No. 037-S338204
First issue: 2024/07/24
Revised:

1. IDENTIFICATION

Product Identifier	SS22 ink White
Product code	SS22-K-50
Recommended use and restriction use	Ink for ink jet printer
Supplier name	MIMAKI ENGINEERING CO., LTD.
Address	2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 JAPAN
Telephone number	+81-268-64-2413
Importer / Distributor name	MIMAKI SINGAPORE PTE. LTD.
Address	31 Kaki Bukit Road 3 Singapore 417818 TechLink #02-03
Telephone number	+65-6508-2789
Emergency telephone number	+65 3165 2217 (within Singapore only) +65 3158 1074

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Health hazards

Flammable Liquid Category 4
Serious Eye Damage/Eye Irritation Category 1
Reproductive Toxicity Category 2

GHS LABEL ELEMENTS

Pictograms

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:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P264 Wash all exposed external body areas thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P308+P313 IF exposed or concerned: Get medical advice/ attention.
P370+P378 In case of fire: Use water spray/fog to extinguish.

Storage	P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Disposal	P501 Dispose of contents/container in accordance with local regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances or mixtures: Mixtures

Chemical name	Contents	CAS RN
Glycol ether solvents	70-80%	Trade secret
Titanium dioxide	10-20%	13463-67-7
Heterocyclic compound	1-10%	Trade secret
Vinyl resin	1-10%	Trade secret

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	If skin contact occurs: 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.
Indication of any immediate medical attention and special treatment needed	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable fire-extinguishing media	Foam. Dry chemical powder. BCF (where regulations permit). Carbon dioxide. Water spray or fog - Large fires only.
Special hazards arising from the substrate or mixture	

Fire Incompatibility	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.
Advice for firefighters	
Fire Fighting	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 (CO_2) other pyrolysis products typical of burning organic material. May emit poisonous fumes.

6. ACCIDENTAL RELEASE MEASURES

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Source	Ingredient	TWA	STEL
Singapore Permissible Exposure Limits of Toxic Substances	Vinyl resin	10 mg/m3	Not Available
Singapore Permissible Exposure Limits of Toxic Substances	Titanium dioxide	10 mg/m3	Not Available

Emergency Limits

Ingredient	Original IDLH	Revised IDLH
Titanium dioxide	5,000 mg/m3	Not Available

Exposure controls

Appropriate engineering controls: Each operation should be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation.
Local exhaust ventilation requires make-up air be supplied in equal volumes to replaced air.

Individual protection measures

Respiratory protection: Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent) Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate. Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

Hand protection: Wear chemical protective gloves, e.g. PVC. Wear safety footwear or

safety gumboots, e.g. Rubber The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

· frequency and duration of contact,
· chemical resistance of glove material,
· glove thickness and
· dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

· When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
· When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
· Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
· Contaminated gloves should be replaced. As defined in ASTM F-739-96 in any application, gloves are rated as:
· Excellent when breakthrough time > 480 min
· Good when breakthrough time > 20 min
· Fair when breakthrough time < 20 min
· Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times. Glove thickness

	may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task. Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example: · Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. · Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.
Eye protection	Safety glasses with side shields. Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].
Skin and body protection	Wear safety footwear or safety gumboots, e.g. Rubber. Overalls. P.V.C. apron.
Hygiene measures	Wash hand thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical State	Liquid
Color	White
Odor	Not Available
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)	Not Applicable
Flammability or explosive limits	
LOWER LIMIT	Not Available
UPPER LIMIT	Not Available
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	1.074
Solubility(ies)	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	Stable under normal conditions of use. 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. Not normally a hazard due to non-volatile nature of product
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

12. ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value
As a product	Not Available	Not Available	Not Available	Not Available

DO NOT discharge into sewer or waterways.

Persistence and degradability

No Data available for all ingredients

Bioaccumulative potential

No Data available for all ingredients

Mobility in soil

No Data available for all ingredients

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. A Hierarchy of Controls seems to be common – the user should investigate: Reduction Reuse Recycling Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Authority for disposal. Bury or incinerate residue at an approved site. Recycle containers if possible, or dispose of in an authorised landfill.

14. TRANSPORT INFORMATION

Land transport (UN)	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.
Marine Pollutant	No
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	Not Applicable.

Heterocyclic compoundis found on the following regulatory lists	Not Applicable.
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) Singapore Permissible Exposure Limits of Toxic Substances
Titanium dioxideis found on the following regulatory lists	Chemical Footprint Project – Chemicals of High Concern List 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) Singapore Permissible Exposure Limits of Toxic Substances
Additional Regulatory Information	Not Applicable.

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.