SAFETY DATA SHEET

TIJ-21S PRINTING INK

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name TIJ-21S PRINTING INK

Product number TIJ-21S

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Printing ink.

1.3. Details of the supplier of the safety data sheet

Supplier Inkminic c Logo Technology (Guangzhou) CO., LTD

1.4. Emergency telephone number

Emergency telephone For emergencies call +86 020 32954560

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (SI 2019 No. 720)

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Not Classified

2.2. Label elements

Hazard statements NC Not Classified

2.3. Other hazards

Endocrine disrupting substances This product does not contain any known or suspected endocrine disruptors over 0.1%

PBT and vPvB The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Lactam CAS number: —	1 - 10%
Classification Eye Irrit. 2 - H319	

Carbon black	1 - 5%
CAS number: 1333-86-4 EC number: 215-609-9	
Classification Not Classified	

2-(2-methoxyethoxy)ethanol	0.1 - 5%
CAS number: 111-77-3 EC number: 203-906-6	
Classification Repr. 2 - H361d	

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical advice/attention if you feel unwell. Show this Safety Data Sheet to the medical personnel.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.
Ingestion	IF SWALLOWED: Rinse mouth thoroughly with water.
Skin contact	IF ON SKIN: Rinse with water.
Eye contact	IF IN EYES: Rinse with water.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

4.2. Most important symptoms and effects, both acute and delayed

General information	See Section 11 for additional information on health hazards.
Inhalation	No specific symptoms known.
Ingestion	No specific symptoms known.
Skin contact	No specific symptoms known.
Eye contact	No specific symptoms known.

4.3. Indication of any immediate medical attention and special treatment needed

Specific treatments	No special treatment required.
Notes for the doctor	No specific recommendations. Treat symptomatically. If in doubt, get medical attention promptly.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Carbon dioxide (CO2). Carbon monoxide (CO).

5.3. Advice for firefighters

Protective actions during firefighting	Avoid breathing fire gases or vapours. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Do not touch or walk into spilled material.

6.2. Environmental precautions

Environmental precautions	Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Small Spillages: Wipe up with an absorbent cloth and dispose of waste safely. Large Spillages: Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Collect and dispose of spillage as indicated in Section 13.

6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Do not handle until all safety precautions have been read and understood. Wear protective clothing as described in Section 8 of this safety data sheet. Handle all packages and containers carefully to minimise spills. Do not handle broken packages without protective equipment. Keep container tightly sealed when not in use.
Advice on general occupational hygiene	Wash at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Keep container tightly closed, in a cool, well ventilated place. Keep containers upright.
Storage class	Chemical storage.

7.3. Specific end use(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

Carbon black

Long-term exposure limit (8-hour TWA): WEL 3.5 mg/m³

Short-term exposure limit (15-minute): WEL 7 mg/m³

2-(2-methoxyethoxy)ethanol

Long-term exposure limit (8-hour TWA): WEL 10 ppm 50.1 mg/m³

Sk

WEL = Workplace Exposure Limit.

Sk = Can be absorbed through the skin.

Carbon black (CAS: 1333-86-4)

DNEL	REACH dossier information. Workers - Inhalation; Long term systemic effects: 2 mg/m³ Workers - Inhalation; Long term local effects: 2 mg/m³
PNEC	REACH dossier information. - Fresh water; 5 mg/l - marine water; 5 mg/l

2-(2-methoxyethoxy)ethanol (CAS: 111-77-3)

DNEL	REACH dossier information. Workers - Inhalation; Long term systemic effects: 50.1 mg/m³ Workers - Dermal; Long term systemic effects: 2.22 mg/kg/day
PNEC	REACH dossier information. - Fresh water; 12 mg/l - marine water; 1.2 mg/l - STP; 10000 mg/l - Sediment (Freshwater); 44.4 mg/kg - Sediment (Marinewater); 0.44 mg/kg - Soil; 2.1 mg/kg

8.2. Exposure controls

Protective equipment

Appropriate engineering controls	Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Ensure control measures are regularly inspected and maintained. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits.
Eye/face protection	Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment that provides appropriate eye and face protection should be worn.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, wear gloves that are proven to be impervious to the chemical and resist degradation. Frequent changes are recommended. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.
Other skin and body protection	Wear appropriate clothing to prevent skin contamination.
Hygiene measures	Provide eyewash station and safety shower. Wash contaminated clothing before reuse. When using do not eat, drink or smoke.
Respiratory protection	No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.
Environmental exposure controls	Not regarded as dangerous for the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Black.
Odour threshold	Not available.
pH	Not available.
Melting point	0°C Information given is applicable to the major ingredient.
Initial boiling point and range	100°C @ 760 mm Hg Information given is applicable to the major ingredient.

Flash point	> 100°C Setaflash closed cup.
Evaporation rate	Not available.
Flammability (solid, gas)	Not relevant. The product is not flammable.
Upper/lower flammability or explosive limits	Not relevant. The product is not flammable.
Vapour pressure	2.34 kPa @ 20°C Information given is applicable to the major ingredient.
Vapour density	> 1
Relative density	1.0 - 1.1
Solubility(ies)	Miscible with water.
Auto- ignition temperature	> 200°C
Decomposition Temperature	Not available.
Viscosity	2. 11-2.61 cP @ 25°C
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Not available.
Molecular weight	Not applicable.
Volatile organic compound	This product contains a maximum VOC content of 5.49 %. This product contains a maximum VOC content of 0.055 kg/l.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	See Section 10.3 (Possibility of hazardous reactions) for further information.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials

Materials to avoid	No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO_2).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects	Not regarded as a health hazard under current legislation.
Acute toxicity - oral	
Notes (oral LD_{50})	Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD_{50}) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50}) Based on available data the classification criteria are not met.

Skin corrosion/ irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/ irritation

Serious eye damage/ irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity Contains a substance which may be potentially carcinogenic. IARC Group 2B Possibly carcinogenic to humans.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

General information No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation No specific symptoms known. Spray/ mists may cause respiratory tract irritation.

Ingestion No specific symptoms known. May cause discomfort if swallowed.

Skin contact No specific symptoms known. May cause discomfort.

Eye contact No specific symptoms known. May be slightly irritating to eyes.

Route of exposure Ingestion Inhalation Skin and/ or eye contact

Target organs No specific target organs known.

Endocrine disrupting substances This product does not contain any known or suspected endocrine disruptors over 0.1%

Toxicological information on ingredients.

Carbon black

Acute toxicity - oral

Notes (oral LD_{50}) REACH dossier information. LD_{50} > 8000 mg/kg, Oral, Rat

Carcinogenicity

IARC carcinogenicity — IARC Group 2B Possibly carcinogenic to humans.

2-(2-methoxyethoxy)ethanol

Acute toxicity - inhalation

Notes (inhalation LC_{50}) — REACH dossier information. LC0 > 1.2 mg/l, Inhalation, Rat

SECTION 12: Ecological information

Ecotoxicity — Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity — Based on available data the classification criteria are not met.

Ecological information on ingredients.

Carbon black

Acute aquatic toxicity

Acute toxicity - fish	REACH dossier information. LC_0, 96 hours: > 1000 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	REACH dossier information. EC_{50}, 24 hours: > 5600 mg/l, Daphnia magna
Acute toxicity - aquatic plants	REACH dossier information. EC_{50}, 72 hours: > 10000 mg/l, Scenedesmus subspicatus
Acute toxicity - microorganisms	REACH dossier information. EC_0, 3 hours: >= 800 mg/l, Activated sludge

2-(2-methoxyethoxy)ethanol

Acute aquatic toxicity

Acute toxicity - fish	REACH dossier information. LC_{50}, 96 hours: 5741 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	REACH dossier information. EC_{50}, 48 hours: 1192 mg/l, Daphnia magna
Acute toxicity - aquatic plants	REACH dossier information. EC_{50}, 96 hours: > 1000 mg/l, Pseudokirchneriella subcapitata
Acute toxicity - microorganisms	REACH dossier information. EC_{50}, 30 minutes: >1000 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability — The degradability of the product is not known.

12.3. Bioaccumulative potential

Bioaccumulative potential — No data available on bioaccumulation.

Ecological information on ingredients.

2-(2-methoxyethoxy)ethanol

Partition coefficient — log Pow: -0.47

12.4. Mobility in soil

Mobility — No data available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration

12.6. Other adverse effects

Other adverse effects	None known.
Endocrine disrupting substances	This product does not contain any known or suspected endocrine disruptors over 0.1%

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	The generation of waste should be minimised or avoided wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.
Disposal methods	Dispose of waste product or used containers in accordance with local regulations Only store in correctly labelled containers.

SECTION 14: Transport information

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

Transport labels
No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

SECTION 15: Regulatory information

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	ATE: Acute Toxicity Estimate. CAS: Chemical Abstracts Service. DNEL: Derived No Effect Level. EC_{50}: 50% of maximal Effective Concentration. GHS: Globally Harmonized System. IARC: International Agency for Research on Cancer. IATA: International Air Transport Association. Kow: Octanol- water partition coefficient. LC50: Lethal Concentration to 50 % of a test population. LD50: Lethal Dose to 50% of a test population (Median Lethal Dose). LOAEL: Lowest Observed Adverse Effect Level. NOAEL: No Observed Adverse Effect Level. PBT: Persistent, Bioaccumulative and Toxic substance. PNEC: Predicted No Effect Concentration. REACH: The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 No. 1577. SVHC: Substances of Very High Concern. vPvB: Very Persistent and Very Bioaccumulative.
Key literature references and sources for data	Source: European Chemicals Agency, http://echa.europa.eu/ Supplier's information.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	01/10/2018
Revision	1
SDS number	835
Hazard statements in full	H319 Causes serious eye irritation. H361d Suspected of damaging the unborn child.