Ink Cartridge for Tissue-Tek® AutoWrite® Slide Printer and Cassette Printer

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)
Issue date: 12/01/2008
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SECTION 1: Identification

1.1. Identification

Product form	:	Mixture
Product name	:	Ink Cartridge for Tissue-Tek® AutoWrite® Slide Printer and Cassette Printer
Product code	:	8051

1.2. Recommended use and restrictions on use

None known.

1.3. Supplier

Sakura Finetek USA Inc.
1750 West 214th St.
Torrance, CA 90501
T: 1-310-972-7800

1.4. Emergency telephone number

CHEMTREC 1-800-424-9300
Email: SDSsupport@sakuraus.com

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Sensitization, skin	Category 1
Reproductive toxicity (fertility)	Category 2
Specific target organ toxicity, single exposure	Category 3 narcotic effects
Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard Pictograms (GHS US)

Signal Word (GHS US)	: Warning
Hazard Statements (GHS US)	: Flammable liquid and vapor. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging fertility. Toxic to aquatic life with long lasting effects.

Precautionary Statements (GHS US) : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Wash contaminated clothing before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.
Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	CAS Number	%
1-Methoxy-2-propanol	107-98-2	50 - 70
Armatic Urethane Acrylate	Proprietary	5 – 15
Dipentaerythritol Hexaacrylate	60506-81-2	5 - 10
Dipentaerythritol Pentaacrylate	29570-58-9	5 - 10
1,6-Hexanediol Diacrylate	13048-33-4	1 – 5
Diacrylate of Bisphenol A Derivative	Proprietary	1 – 5
Diphenyl (2,4,6 – Trimethylbenzoyl) Phosphine Oxide	75980-60-8	1 – 5
Ethoxylated (3) Trimethylpropane Triacrylate	28961-43-5	1 – 5
Tris(2-hydroxyethyl) Isocyanurate Triacrylate	40220-08-4	1 – 5

The specific chemical\ component identities and/or the exact component percentages of this material may be withheld as trade secrets.
This information is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of 29 CFR 1910.1200 (I)(1). Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, mutagen, and reproductive toxicant, respiratory tract and skin sensitizers in addition to oral/ inhalation acute toxicant in category 1 and 2). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists

First-aid measures after ingestion : Rinse mouth. Get medical attention if symptoms occur. If ingestion of a large amount occurs, seek medical attention.

4.2. Most important symptoms and effects (acute and delayed)

May cause drowsiness and dizziness. Headache. Nausea, vomiting, diarrhea. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

4.3. Immediate medical attention and special treatment, if necessary

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. Take off all contaminated clothing immediately. If exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

6.1.2. For emergency responders

Protective equipment : For personal protection, refer to section 8 of the SDS.

6.2. Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. The product is immiscible with water and will spread on the water surface.

Other information : Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. A vapor-suppressing foam may be used to reduce vapors. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible

Hygiene measures : Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS). Protect from direct sunlight. Avoid ultraviolet (UV) light sources.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

US. ACGIH Threshold Limit Values		
Components	**Type**	**Value**
1-Methoxy-2-propanol (CAS 107-98-2)	STEL TWA	100 ppm 50 ppm

US. NIOSH: Pocket Guide to Chemical Hazards		
Components	**Type**	**Value**
1-Methoxy-2-propanol (CAS 107-98-2)	STEL TWA	540 mg/m3 150 ppm 360 mg/m3 100 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides		
Components	**Type**	**Value**
1,6-Hexanediol diacrylate (CAS 13048-33-4)	TWA	1 mg/m3 0.11 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Environmental exposure controls : When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Eye protection:

Wear safety glasses with side shields (or goggles). Risk of splashes: Face shield is recommended.

Skin and body protection:

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection:

Chemical respirator with organic vapor cartridge and full facepiece.

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Black
Odor	:	Ether
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	242.6 - 257 °F (117 - 125 °C) (760 mm Hg)
Flash point	:	86.0 °F (30.0 °C) Closed Cup
Relative evaporation rate (butyl acetate=1)	:	0.8 BuAc
Flammability	:	Not applicable.
Vapor pressure	:	1.17 kPa
Relative vapor density at 20°C	:	No data available
Relative density	:	0.9 (approximate)
Solubility	:	(Water) Insoluble (Other) Soluble in polar organic solvents
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	554 °F (290 °C)
Decomposition temperature	:	No data available
Viscosity, kinematic	:	7.9 cP (77 °F (25 °C))
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Not oxidizing

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

If material comes into contact with heat or direct sunlight, it may catalyze a highly exothermic polymerization reaction.

10.4. Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Avoid temperatures above 140°F (60°C). Exposure to sunlight. Avoid ultraviolet (UV) light sources.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases. Radical initiators. Peroxides. Reactive metals.

10.6. Hazardous decomposition products

Thermal decomposition or combustion may produce: carbon oxides, nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Expected to be a low ingestion hazard. Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.
Acute toxicity (dermal)	:	Causes skin irritation. May cause an allergic skin reaction.
Acute toxicity (inhalation)	:	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin corrosion/irritation	:	Causes skin irritation
Serious eye damage/irritation	:	Causes serious eye irritation
Respiratory or skin sensitization	:	Not a respiratory sensitizer. May cause an allergic skin reaction.
Germ cell mutagenicity	:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	:	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	:	Suspected of damaging fertility.
STOT-single exposure	:	May cause drowsiness and dizziness.
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not an aspiration hazard.
Viscosity, kinematic	:	No data available

Components	Species	Test Results
1,6-Hexanediol diacrylate (CAS 13048-33-4)		
Acute *Dermal* LD50	Rabbit	3600 mg/kg
Oral LD50	Rat	5000 mg/kg

Components	Species	Test Results
1-Methoxy-2-propanol (CAS 107-98-2)		
Acute *Dermal* LD50	Rat	>2000 mg/kg
Oral LD50	Rat	3739 mg/kg

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	Toxic to aquatic life with long lasting effects.

Components		Species	Test Results
1,6-Hexanediol diacrylate (CAS 13048-33-4)			
Aquatic			
Acute			
Algae	EC50	Desmodesmus subspicatus	1.5 mg/l, 72 hours
Crustacea	EC50	Daphnia magna	2.6 mg/l, 48 hours
Fish	LC50	Leuciscus idus	4.6 - 10 mg/l, 96 hours

12.2. Persistence and degradability

No data is available on the degradability of this product.

12.3. Bioaccumulative potential

No information available

12.4. Mobility in soil

The product is insoluble in water.

12.5. Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

UN1210

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Printing Ink
Proper Shipping Name (IMDG) : Printing Ink
Proper Shipping Name (IATA) : Printing Ink

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : 3

IMDG
Transport hazard class(es) (IMDG) : 3

IATA
Transport hazard class(es) (IATA) : 3

14.4. Packing group

Packing group (DOT)	:	III
Packing group (IMDG)	:	III
Packing group (IATA)	:	III

14.5. Environmental hazards

Other information	:	IATA : Enviromental Hazard – Yes IMDG: Marine Pollutant – Yes

14.6. Special precautions for user

DOT
Read safety instructions, SDS and emergency procedures before handling.

IMDG
Read safety instructions, SDS and emergency procedures before handling.

IATA
Read safety instructions, SDS and emergency procedures before handling.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not established.

SECTION 15: Regulatory information

15.1. US Federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4)
1-Methoxy-2-propanol (CAS 107-98-2) - LISTED
Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard Categories Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard – No
SARA 302 Extremely hazardous substance
Not Listed.
SARA 311/312 Hazardous Chemical
Yes
SARA 313 (TRI reporting)
Not regulated.

15.2. International regulations

Country(s) or Region	Inventory Name	On Inventory (Yes/No)*
United States & Puerto Rico	**Toxic Substances Control Act (TSCA) Inventory**	**Yes**

*A "**Yes**" indicates this product complies with the inventory requirements administered by the governing country(s).

*A "**No**" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

15.3. US State regulations

US. Massachusetts RTK - Substance List

1-Methoxy-2-propanol (CAS 107-98-2)

US. New Jersey Worker and Community Right-to-Know Act

1-Methoxy-2-propanol (CAS 107-98-2)

US. Pennsylvania Worker and Community Right-to-Know Law

1-Methoxy-2-propanol (CAS 107-98-2)

US. Rhode Island RTK

Not regulated.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

SECTION 16: Other information

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Sakura Finetek USA Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.