Tissue-Tek® Glas™ Mounting Medium

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	:	Tissue-Tek® Glas™ Mounting Medium
Product code	:	6419

1.2. Recommended use and restrictions on use

Tissue-Tek® Glas™ Coverslipper

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

Physical hazards	Flammable liquids Category 3
Health hazards	Acute toxicity, dermal Category 4
	Acute toxicity, inhalation Category 4
	Skin corrosion/irritation Category 2
	Serious eye damage/eye irritation Category 2B
	Carcinogenicity Category 2
	Reproductive toxicity (fertility) (oral) Category 2
	Specific target organ toxicity, single exposure Category 3 (respiratory tract irritation)
	Specific target organ toxicity, repeated exposure Category 2 (hearing organs, kidney, liver, CNS)
	Aspiration hazard Category 1
Environmental hazards	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

Label elements

Signal word Danger

Hazard statement	Flammable liquid and vapor. May be fatal if swallowed and enters airways. Harmful in contact with skin. Causes skin irritation. Causes eye irritation. Harmful if inhaled. May cause respiratory irritation. Suspected of causing cancer. Suspected of damaging fertility by ingestion. May cause damage to organs (hearing organs, kidney, liver, CNS) through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.
Precautionary statement	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. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Immediately call a poison center/doctor. 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. Call a poison center/doctor if you feel unwell. Do NOT induce vomiting. If skin irritation 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

None known.

2.4. Unknown acute toxicity (GHS US)

None

SECTION 3: Composition/Information on ingredients

3.1. Substances

Enter applicable information

3.2. Mixtures

Name	CAS Number	%
Xylene	1330-20-7	proprietary
Ethylbenzene	100-41-4	proprietary
Tricresyl phosphate	1330-78-5	proprietary
Poly (Methyl Methacrylate/n-Butyl Methacrylate)	28262-63-7	proprietary

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 (l)(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. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical advice/attention if you feel unwell. If skin irritation occurs: Get medical advice/attention. 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 : Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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

Aspiration may cause pulmonary edema and pneumonitis. Dizziness. Nausea, vomiting. Abdominal pain. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause respiratory irritation. Skin irritation. May cause redness and pain. Edema. Jaundice. Prolonged exposure may cause chronic effects. Ototoxic effects, such as diminished hearing.

4.3. Immediate medical attention and special treatment, if necessary

Provide general supportive measures and treat symptomatically. Keep victim warm. 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).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

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. Use standard firefighting procedures and consider the hazards of other involved materials. Flammable liquid and vapor.

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. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Avoid discharge into drains, water courses or onto the ground.

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. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.

6.1.2. For emergency responders

Protective equipment : Local authorities should be advised if significant spillages cannot be contained. For personal protection, see 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. Use water spray to reduce vapors or divert vapor cloud drift. 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. 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. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. 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).

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3 100 ppm
Xylene (CAS 1330-20-7)	PEL	435 mg/m3 100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethylbenzene (CAS100-41-4)	STEL	545 mg/m3 125 ppm
	TWA	435 mg/m3 100 ppm
Xylene (CAS 1330-20-7)	STEL	655 mg/m3 150 ppm
	TWA	435 mg/m3 100 ppm

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Ethylbenzene (CAS100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
Xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

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.

General hygiene considerations 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.

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.

Skin and body protection:
Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Wear protective gloves. Wear appropriate thermal protective clothing, when necessary.

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	:	Colorless.
Odor	:	Benzene-like
Odor threshold	:	Not available.
pH	:	Not available.
Melting point	:	Not available.
Freezing point	:	Not available.
Boiling point	:	278 - 290 °F (136.67 - 143.33 °C) (Xylene)
Flash point	:	79.0 °F (26.1 °C)
Relative evaporation rate (butyl acetate=1)	:	0.8 BuAc (approximate)
Flammability	:	Flammability limit - lower (%) 1.1 Flammability limit - upper (%) 6.6
Vapor pressure	:	9 (Xylene) (77 °F (25 °C))
Relative vapor density at 20°C	:	3.7 (Air=1)(Xylene)
Relative density	:	0.87 (Xylene)
Solubility	:	Insoluble
Partition coefficient n-octanol/water (Log Pow)	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity, kinematic	:	Not available.
Viscosity, dynamic	:	Not available.
Explosion limits	:	Not explosive
Explosive properties	:	Not explosive
Oxidizing properties	:	Not oxidizing.

9.2. Other information

No available information

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

Material is stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Contact with incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Thermal decomposition or combustion may produce: carbon oxides, phosphorus oxides and unidentified organic compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: May be fatal if swallowed and enters airways. Harmful if inhaled. Harmful in contact with skin. May cause respiratory irritation.

Acute toxicity (oral) : Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. Suspected of damaging fertility by ingestion.

Components	Species	Test Results
Ethylbenzene (CAS 100-41-4)		
Acute		
Oral		
LD50	Rat	35000 - 47000 mg/kg
Xylene (CAS 1330-20-7)		
Acute		
Oral		
LD50	Rat	3523 mg/kg

Acute toxicity (dermal) : Harmful in contact with skin. Causes skin irritation.

Components	Species	Test Results
Ethylbenzene (CAS 100-41-4)		
Acute		
Dermal		
LD50	Rabbit	15400 mg/kg
Xylene (CAS 1330-20-7)		
Acute		
Dermal		
LD50	Rabbit	12126 mg/kg, 24 Hours

Acute toxicity (inhalation) : Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation.

Components	Species	Test Results
Ethylbenzene (CAS 100-41-4)		
Acute		
Inhalation		
LC50	Rat	17.4 mg/m³, 4 Hours
Xylene (CAS 1330-20-7)		
Acute		
Inhalation		
LC50	Rat	6350 ppm, 4 Hours

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes eye irritation. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort.

Respiratory or skin sensitization : Not a respiratory sensitizer. This product is not expected to cause skin sensitization.
May cause respiratory irritation.

Germ cell mutagenicity : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity : Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity : Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. Suspected of damaging fertility.

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : May cause damage to organs (hearing organs, kidney, liver, CNS) through prolonged or repeated exposure.

Aspiration hazard : May be fatal if swallowed and enters airways. Aspiration may cause pulmonary edema and pneumonitis. Dizziness. Nausea, vomiting. Abdominal pain.

Chronic effects : May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

SECTION 12: Ecological information

12.1. Toxicity

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

Components		Species	Test Results
Ethylbenzene (CAS 100-41-4)			
Aquatic			
Crustacea	EC50	Daphnia	1.81 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	32 - 88 mg/l, 96 hours
		Fathead minnow (Pimephales promelas)	12.1 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	2.81 - 8.74 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

12.2. Persistence and degradability

No data is available on the degradability of this product.

12.3. Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Ethylbenzene (CAS 100-41-4)	3.15
Tricresyl phosphate (CAS 1330-78-5)	5.11
Xylene (CAS 1330-20-7)	3.2

12.4. Mobility in soil

No data available.

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 : Since emptied containers may retain product residue, follow label warnings even after container is emptied. 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

UN1307

14.2. UN proper shipping name

Proper Shipping Name (DOT)	:	Xylenes Solution
Proper Shipping Name (IMDG)	:	Xylenes Solution
Proper Shipping Name (IATA)	:	Xylenes Solution

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 :

(DOT) Marine pollutant	No
(IMDG) Marine pollutant	Yes
(IATA) Environmental hazards	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)	
Ethylbenzene (CAS 100-41-4)	LISTED
Xylene (CAS 1330-20-7)	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)

Chemical name	CAS number	% by wt.
Xylene	1330-20-7	proprietary
Ethylbenzene	100-41-4	proprietary

15.2. International regulations

Country(s) or Region	Inventory Name	On Inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
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
Ethylbenzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)
US. New Jersey Worker and Community Right-to-Know Act
Ethylbenzene (CAS 100-41-4)
Tricresyl phosphate (CAS 1330-78-5)
Xylene (CAS 1330-20-7)
US. Pennsylvania Worker and Community Right-to-Know Law
Ethylbenzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)
US. Rhode Island RTK
Ethylbenzene (CAS 100-41-4)
Xylene (CAS 1330-20-7)
US. California Proposition 65
WARNING: This product can expose you to chemicals including Ethyl benzene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov
US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT):Listed substance
Ethylbenzene (CAS 100-41-4)

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.