Tissue-Tek Xpress® Pre-Processing Fixative

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)
Issue date: 12/01/2008
Revision date: 12/16/2024 Version: K

SECTION 1: Identification

1.1. Identification

Product form	:	Mixture
Product name	:	Tissue-Tek Xpress® Pre-Processing Fixative
Product code	:	7117

1.2. Recommended use and restrictions on use

Tissue-Tek Xpress® Rapid Tissue Processor

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	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
	Sensitization, skin	Category 1B
	Germ cell mutagenicity	Category 2
	Specific target organ toxicity, single exposure	(STOT-SE Category 3 respiratory tract irritation
	Acute toxicity	Category 4 Inhalation-mist
OSHA defined hazards	Not Classified	

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard symbol

Signal word Warning

Hazard statement
Flammable liquid and vapor.
Causes skin irritation.
Causes eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects (micro-organisms, cell cultures).
May cause respiratory irritation.
Harmful if inhaled.

Precautionary statement

Prevention - Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing mist/vapors/spray.
Wash skin thoroughly after handling.
Use in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
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 and lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.

Response - If exposed/concerned/do not feel well: Call poison center or get medical advice/attention.
If on skin/hair: Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
In case of fire: Use water fog, foam, dry chemical or carbon dioxide to extinguish.
Specific treatment: See Section 4 of this SDS.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

Storage - Store in a well-ventilated place.
Keep container tightly closed.
Keep cool.
Store locked up.

Disposal - Dispose of contents/containers in accordance with governmental regulations.

2.3. Other hazards which do not result in classification

None as defined under 29 CFR 1900.1200

2.4. Unknown acute toxicity (GHS US)

None known.

SECTION 3: Composition/Information on ingredients

3.1. Substances

Mixture

3.2. Mixtures

Name	CAS Number	%
Glyoxal	107-22-2	*
Ethanol	64-17-5	*
Buffer	*	*

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 if coughing or difficulty in breathing is experienced. Consult a physician if symptoms persist or worsen. Administer oxygen or artificial respiration as needed.

First-aid measures after skin contact : Remove contaminated clothing, including footwear; wash before reuse or discard. For minor exposure, wash affected area with water and mild soap, rinsing thoroughly. In cases of prolonged, repeated or extensive exposure, rinse affected area or entire body for at least 15 minutes. Consult a physician.

First-aid measures after eye contact : Flush eyes for at least 15 minutes in an eyewash station. Consult a physician.

First-aid measures after ingestion : Call a poison center immediately.

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

Brief contact with skin is non irritating. Prolonged contact can cause irritation. Ingestion is likely to cause adverse effects on gastrointestinal tract. Brief contact of liquid with eyes may cause watering and redness.

4.3. Immediate medical attention and special treatment, if necessary

See listed first-aid procedures. No information available for special treatment. Treat according to symptoms. Product is a solution used to preserve tissue specimens for pathology.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use water spray, alcohol resistant foam, dry chemical or carbon dioxide.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Hazardous products of combustion: carbon monoxide and carbon dioxide.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Fire-fighters may wear self-contained breathing apparatus if necessary.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Avoid inhalation of vapors.
Avoid contact with skin and eyes.
Eliminate sources of ignition.
Take precautionary measures against static electricity

6.1.1. For non-emergency personnel

Emergency procedures : See information in sub-section above.

6.1.2. For emergency responders

Protective equipment : Wear protective gloves, impermeable aprons and splash-proof goggles.

6.2. Environmental precautions

No information

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Eliminate sources of ignition with large spills.
Take precautionary measures against static electricity.
Contain and soak up spill with inert absorbent material. Small spills can be cleaned with a damp sponge.
Discard absorbents and other contaminated solids in a suitable trash receptacle.
Dispose absorbents and other contaminated solids as a hazardous waste.
Wash contaminated area with soap and water.

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 : Avoid contact with skin and eyes.
Avoid inhalation of vapors.
Wear protective gloves, impermeable aprons and splash-proof goggles.
With large volumes (55-gallon drum), material will accumulate static. Use proper grounding procedures for storage and when moving to transfer containers.

Hygiene measures : Wear protective gloves, impermeable aprons and splash-proof goggles.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep containers tightly closed.
Store at room temperature.
Consult local fire codes for additional storage information

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chemical Name	CAS Number	Exposure Limit	Value
Glyoxal	107-22-2	ACGIH TLV (TWA)	0.1 mg/m3 Inhalable fraction and vapor
Ethanol	64-17-5	OSHA (8 hr TWA)	1000 ppm
Buffer	Trade secret	None established	N/A

8.2. Appropriate engineering controls

Appropriate engineering controls : Good general room ventilation should be provided so that exposure limits are not exceeded.

Environmental exposure controls : If required provide local exhaust ventilation to control vapors.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear nitrile or chemical resistant gloves. Do not use latex surgical gloves for protection. Safety shower must be nearby, no more than 10 seconds away.

Eye protection:

Use splash-proof goggles. Wear face shield if splashing hazard exists. An eyewash station must be nearby, no more than 10 seconds away.

Skin and body protection:

Wear nitrile or chemical resistant gloves. Do not use latex surgical gloves for protection. Safety shower must be nearby, no more than 10 seconds away.

Respiratory protection:
None needed for this concentration. When risk assessment shows one is necessary, wear respirator with organic vapor cartridge.

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Clear, colorless to slightly pale yellow, liquid
Color	:	Clear, colorless to slightly pale yellow, liquid
Odor	:	Mild acidic/alcohol odor
Odor threshold	:	No data available
pH	:	3.75-4.25
Melting point	:	No information available
Freezing point	:	No information available
Boiling point	:	185°F-220°F (85°C-104°C)
Flash point	:	102°F (38.9°C) closed cup
Relative evaporation rate (butyl acetate=1)	:	No information available
Flammability	:	No information available
Vapor pressure	:	No information available
Relative vapor density at 20°C	:	No information available
Relative density	:	1.003 at 20°C
Solubility	:	Complete in water
Partition coefficient n-octanol/water (Log Pow)	:	No information available
Auto-ignition temperature	:	No information available
Decomposition temperature	:	No information available
Viscosity, kinematic	:	No information available
Viscosity, dynamic	:	No information available
Explosion limits	:	No information available
Explosive properties	:	No information available
Oxidizing properties	:	No information available

9.2. Other information

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as indicated.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

The product is chemically stable.

10.4. Conditions to avoid

Temperatures greater than flash point.

10.5. Incompatible materials

Strong alkali.

10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as indicated.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

The following data are for undiluted glyoxal.

Acute toxicity, skin (rat) LC50>2,000 mg/kg. OECD Guideline 402. Limit concentration test only.

Acute toxicity, inhalation (rat), 4 hr LC50=2.44 mg/l. Aerosol. OECD Guideline 403.

Acute toxicity, oral (rat) LC50=3,300 mg/kg. OECD Guideline 401.

OECD=Organization for Economic Co-operation and Development for the Testing of Chemicals

The following data are for 100%ethanol.

Acute toxicity, inhalation (rat) LC50>20,000 ppm, 10 hrs

Acute toxicity, oral (human) LDLo : 1400 mg/kg BWT

Acute toxicity (oral)	:	Likely routes of exposure
Acute toxicity (dermal)	:	Likely routes of exposure
Acute toxicity (inhalation)	:	Likely routes of exposure
Skin corrosion/irritation	:	Caused skin sensitization in humans and in animal studies.
Serious eye damage/irritation	:	Eye and skin contact causes irritation.
Respiratory or skin sensitization	:	Causes temporary irritation of the respiratory tract.
Germ cell mutagenicity	:	No information available for this product.
Carcinogenicity	:	None as defined by 29 CFR 1900.1200.
Reproductive toxicity	:	No information available for this product.
STOT-single exposure	:	Specific target organ toxicity, single exposure (STOT-SE): causes temporary irritation of the respiratory tract.
STOT-repeated exposure	:	No information available for this product.
Aspiration hazard	:	No information available for this product.
Viscosity, kinematic	:	No information available for this product.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Full strength glyoxal will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.

Test	Duration	Organism	Test Results
Toxicity-fish	96 hours	Leuciscus idus	LC50 >186-<272 mg/l
Aquatic invertebrates	48 hours	Daphnia magna	EC50 161 mg/l
Aquatic plants	72 hours	Scenedesmus subspicatus	EC50 > 40 mg/l (growth rate)
Chronic toxicity-fish	34 days	Pimephales promelas	No observed effect concentration 112 mg/l
Chronic toxicity-aquatic invertebrates	21 days	Daphnia magna	No observed effect concentration 3.19 mg/l
Microorganisms/effect on activated sludge	0.5 hours	Activated sludge	EC50>400 mg/l

The following data are from studies using full strength ethanol.

LC=lethal concentration

Test	Duration	Organism	Test Results
Acute toxicity-fish	96 hours 96 hours	Oncorhynchus mykiss Pimephales promelas	LC50 >10,000 mg/l LC50 >13,400 mg/l
Aquatic plants	96 hours	Chlorella vulgaris	1,000 mg/l (growth inhibition)
Toxicity to microorganisms	34 days	Pseudmona putida	6,500 mg/l Inhibition of cell multiplication begins

12.2. Persistence and degradability

Readily biodegradable (undiluted glyoxal).

12.3. Bioaccumulative potential

Bioconcentration factor for full strength glyoxal: 3.2, fish (calculated).

12.4. Mobility in soil

Full strength glyoxal will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.

12.5. Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Drain disposal may be possible with the permission of local wastewater treatment authorities. Otherwise contact a licensed professional waste disposal service to dispose of this material. Proper waste disposal is the generator's responsibility. Follow federal, state (provincial) and local regulations.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

UN1993

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not regulated as a dangerous good.
Proper Shipping Name (IMDG) : Not regulated as a dangerous good.
Proper Shipping Name (IATA) : Flammable liquid, n.o.s. (ethanol)

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not regulated as a dangerous good.

IMDG
Transport hazard class(es) (IMDG) : Not regulated as a dangerous good.

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

14.4. Packing group

Packing group (DOT)	:	Not regulated as a dangerous good.
Packing group (IMDG)	:	Not regulated as a dangerous good.
Packing group (IATA)	:	III

14.5. Environmental hazards

Other information	:	No information available.

14.6. Special precautions for user

DOT
No information available.

IMDG
No information available.

IATA
No information available.

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

No information available.

SECTION 15: Regulatory information

15.1. US Federal regulations

This product is considered hazardous in accordance with 29 CFR 1910.1200.

15.2. International regulations

This product is considered hazardous in accordance with 29 CFR 1910.1200.

15.3. US State regulations

This product is considered hazardous in accordance with 29 CFR 1910.1200.

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.