Tissue-Tek® Paraform® Orientation Gels

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)
Issue date: 06/06/2014
Revision date: 11/08/2024 Version: F

SECTION 1: Identification

1.1. Identification

Product form	:	Mixture
Product name	:	Tissue-Tek® Paraform® Orientation Gels
Product code	:	Tissue-Tek® Paraform® Tissue Orientation Gel Strips, 20.0 x 2.6 mm (Product code #7043), Tissue-Tek® Paraform® Biopsy Gels (Product code #7045), Tissue-Tek® Paraform® 2-Lane Gels (Product code #7046), Tissue-Tek® Paraform® 1-mm Punch Gels (Product code #7047), Tissue-Tek® Paraform® 2-mm Punch Gels (Product code #7048), Tissue-Tek® Paraform® 3-mm Punch Gels (Product code #7049) *Synonym: Hydrogel * Tissue Orientation Gel*

1.2. Recommended use and restrictions on use

For tissue processing.

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	Not classified.	
Health hazards	Reproductive toxicity	Category 1B
OSHA defined hazards	Not classified.	

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Label elements

Signal word	Danger
Hazard statement	May damage fertility or the unborn child.
Precautionary statement	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. If exposed or concerned: Get medical advice/attention. 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

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	%
Water	7732-18-5	70-99
Proprietary carbohydrate matrix (dried)	Proprietary	< 30
Sodium tetraborate decahydrate	1303-96-4	0 - 1
Methyl paraben	99-76-3	0 – 0.5

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 : If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

First-aid measures after skin contact : Rinse skin with water/shower. Get medical attention if irritation develops and persists.

First-aid measures after eye contact : Rinse with water. Get medical attention if irritation develops and persists.

First-aid measures after ingestion : Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

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

Direct contact with eyes may cause temporary irritation.
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.

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.

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 — 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.
Fire fighting equipment/instructions — Use water spray to cool unopened containers.
Specific methods — Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards — No unusual fire or explosion hazards noted.

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.

6.1.2. For emergency responders

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

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Large Spills: Stop the flow of material, if this is without risk. Shovel up and place in a container for salvage or disposal. Following product recovery, flush area with water. Small Spills: Scoop up released material. Clean surface thoroughly to remove residual contamination.
Other information : 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. Provide adequate ventilation. 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. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in original tightly closed container. 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	Form
Proprietary carbohydrate matrix (dried) (CAS Proprietary)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Proprietary carbohydrate matrix (dried) (CAS Proprietary)	TWA	10 mg/m3	
Sodium tetraborate decahydrate (CAS 1303-96-4)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Proprietary carbohydrate matrix (dried) (CAS Proprietary)	TWA	5 mg/m3	Respirable.
Sodium tetraborate decahydrate (CAS 1303-96-4)	TWA	10 mg/m3	Total
		5 mg/m3	

8.2. Appropriate engineering controls

Appropriate engineering controls : 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

Environmental exposure controls : If exposure limits have not been established, maintain airborne levels to an acceptable level.

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:

If contact is likely, safety glasses with side shields are recommended.

Skin and body protection:

Use of an impervious apron is recommended. Wear appropriate thermal protective clothing, when necessary.
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.

Respiratory protection:

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid (Semi-solid / Gel)
Color : %OXH.
Odor : Not available.
Odor threshold : Not available.
pH : Not available.
Melting point : Not available.

Freezing point	:	Not available.
Boiling point	:	Not available.
Flash point	:	Not available.
Relative evaporation rate (butyl acetate=1)	:	Not available.
Flammability	:	Combustible solid.
Vapor pressure	:	Not available.
Relative vapor density at 20°C	:	Not available.
Relative density	:	Not available.
Solubility	:	Not available.
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

None

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

Contact with incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents. Acids. Bases.

10.6. Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Expected to be a low ingestion hazard.
Acute toxicity (dermal)	:	No adverse effects due to skin contact are expected.
Acute toxicity (inhalation)	:	Prolonged inhalation may be harmful.

Acute toxicity: Not expected to be acutely toxic.

Components	Species	Test Results
Sodium tetraborate decahydrate (CAS 1303-96-4)		
Acute		
Dermal LD50	Rabbit	> 10000 mg/kg
Oral LD50	Rat	5.66 g/kg
Methyl paraben	99-76-3	0 - 0.5

Skin corrosion/irritation	:	Prolonged skin contact may cause temporary irritation.
Serious eye damage/irritation	:	Direct contact with eyes may cause temporary irritation
Respiratory or skin sensitization	:	Not a respiratory sensitizer. This product is not expected to cause skin sensitization.
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	:	May damage fertility or the unborn child.
STOT-single exposure	:	Not classified.
STOT-repeated exposure	:	Not classified.
Aspiration hazard	:	Not an aspiration hazard.
Chronic effects	:	Reproductive hazard.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2. Persistence and degradability

No data is available on the degradability of this product.

12.3. Bioaccumulative potential

No data available.

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	:	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. . Empty containers or liners may retain some product residues. 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

Not regulated as dangerous goods.

14.2. UN proper shipping name

Proper Shipping Name (DOT)	:	Not regulated as dangerous goods.
Proper Shipping Name (IMDG)	:	Not regulated as dangerous goods.
Proper Shipping Name (IATA)	:	Not regulated as dangerous goods.

14.3. Transport hazard class(es)

DOT

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

IMDG

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

IATA

Transport hazard class(es) (IATA) : Not regulated as dangerous goods.

14.4. Packing group

Packing group (DOT) : Not regulated as dangerous goods.
Packing group (IMDG) : Not regulated as dangerous goods.
Packing group (IATA) : Not regulated as dangerous goods.

14.5. Environmental hazards

Other information : Not regulated as dangerous goods.

14.6. Special precautions for user

DOT

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

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

Not applicable.

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)	Not listed.
Superfund Amendments and Reauthorization Act of 1986 (SARA) **Hazard categories** Immediate Hazard - No Delayed Hazard - Yes Fire Hazard – No 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)*
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)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemical 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
Proprietary carbohydrate matrix (dried) (CAS Proprietary)
Sodium tetraborate decahydrate (CAS 1303-96-4)
US. New Jersey Worker and Community Right-to-Know Act
Sodium tetraborate decahydrate (CAS 1303-96-4)
US. Pennsylvania Worker and Community Right-to-Know Law
Proprietary carbohydrate matrix (dried) (CAS Proprietary)
Sodium tetraborate decahydrate (CAS 1303-96-4)
US. Rhode Island RTK
Not regulated.
US. 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.