Tissue-Tek VIP® 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
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SECTION 1: Identification

1.1. Identification

Product form	:	Mixture
Product name	:	Tissue-Tek VIP® Fixative
Product code	:	5989, 5990, & 5991

1.2. Recommended use and restrictions on use

Formalin Fixative

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 4
Acute toxicity, oral Category 4
Sensitization, skin Category 1
Germ cell mutagenicity Category 2
Carcinogenicity Category 1A
Specific target organ toxicity, single exposure Category 2 (optic nerve, CNS)

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Signal Word Danger

Hazard Statement Combustible liquid. Harmful if swallowed. May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer. May cause damage to organs (optic nerve, CNS).

Precautionary Statement Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from flames and hot surfaces. - No smoking.
Do not breathe mist or vapor. Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
If on skin: Wash with plenty of water. If exposed or concerned: Get medical advice/attention.
Rinse mouth. If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse. In case of fire: Use appropriate media to extinguish.
Store in a well-ventilated place. Keep cool. 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 known.

SECTION 3: Composition/Information on ingredients

3.1. Substances

Mixture

3.2. Mixtures

Name	CAS Number	%
Formaldehyde	50-00-0	4
Methanol	67-56-1	1

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 : Move to fresh air. Call a physician if symptoms develop or persist.
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.
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 vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

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

Visual disturbances including blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.
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.

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.

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: During fire, gases hazardous to health may be formed. The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. Vapors may travel considerable distance to a source of ignition and flash back.

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. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials.

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. 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. Ensure adequate ventilation. For personal protection, see section 8 of the SDS.

6.1.2. For emergency responders

Protective equipment : Local authorities should be advised if significant spillages cannot be contained.

6.2. Environmental precautions

Enter information

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. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: 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. For waste disposal, see section 13 of the SDS.

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

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. Keep away from open flames, hot surfaces and sources of ignition. Provide adequate ventilation. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment.

Hygiene measures : Wash hands thoroughly after handling. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from heat, sparks and open flame. 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 Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Formaldehyde (CAS 50-00-0)	STEL	2 ppm
	TWA	0.75 ppm

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

Components	Type	Value
Methanol (CAS 67-56-1)	PEL	260 mg/m3
		200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Formaldehyde (CAS 50-00-0)	Ceiling	0.3 ppm
Methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Formaldehyde (CAS 50-00-0)	Ceiling	0.1 ppm
	TWA	0.016 ppm
Methanol (CAS 67-56-1)	STEL	325 mg/m3
		250 ppm
	TWA	260 mg/m3
		200 ppm

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

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

Exposure guidelines

US - California OELs: Skin designation

Methanol (CAS 67-56-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Methanol (CAS 67-56-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Methanol (CAS 67-56-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Methanol (CAS 67-56-1) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Methanol (CAS 67-56-1) Can be absorbed through the skin.

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. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Other	:	When using do not smoke. Keep away from food and drink. 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	:	Clear Liquid
Color	:	Clear and Colorless
Odor	:	No data available
Odor threshold	:	No data available
pH	:	6.8 – 7.4
Melting point	:	32 °F (0 °C)
Freezing point	:	32 °F (0 °C)
Boiling point	:	212 °F (100 °C)
Flash point	:	185.0 °F (85.0 °C) TAG Closed Cup
Relative evaporation rate (butyl acetate=1)	:	Essentially same as water
Flammability	:	N/A

Vapor pressure	:	Essentially same as water
Relative vapor density at 20°C	:	N/A
Relative density	:	1.09
Solubility	:	(Water) Complete
Partition coefficient n-octanol/water (Log Pow)	:	N/A
Auto-ignition temperature	:	N/A
Decomposition temperature	:	N/A
Viscosity, kinematic	:	N/A
Viscosity, dynamic	:	N/A
Explosion limits	:	Not explosive
Explosive properties	:	Not explosive
Oxidizing properties	:	Not oxidizing

9.2. Other information

N/A

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. Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point.

10.5. Incompatible materials

Avoid oxidizing agents and alkalis. Reaction with hydrochloric acid may form bis-chloromethyl ether, an OSHA regulated carcinogen.

10.6. Hazardous decomposition products

May form carbon dioxide, carbon monoxide, and formaldehyde when heated to decomposition.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Harmful if swallowed.
Acute toxicity (dermal)	:	May cause an allergic skin reaction.
Acute toxicity (inhalation)	:	May cause damage to organs by inhalation. Prolonged inhalation may be harmful.
Skin corrosion/irritation	:	Prolonged skin contact may cause temporary irritation
Serious eye damage/irritation	:	Direct contact with eyes may cause temporary irritation. Visual disturbances including blurred vision.
Respiratory or skin sensitization	:	Not a respiratory sensitizer. Prolonged skin contact may cause temporary irritation **ACGIH sensitization** Formaldehyde (CAS 50-00-0) - Sensitizer.
Germ cell mutagenicity	:	Suspected of causing genetic defects.

Carcinogenicity	:	May cause cancer. **IARC Monographs. Overall Evaluation of Carcinogenicity** Formaldehyde (CAS 50-00-0) 1 - Carcinogenic to humans. **NTP Report on Carcinogens** Formaldehyde (CAS 50-00-0) - Known To Be Human Carcinogen. **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)** Formaldehyde (CAS 50-00-0) - Cancer
Reproductive toxicity	:	Due to inconclusive data the classification is not possible. Methanol has produced fetotoxicity in rats and teratogenicity in mice exposed by inhalation to high concentrations that did not produce significant maternal toxicity. Methanol (CAS 67-56-1) is in the California Proposition 65 list of chemicals as a developmental toxin.
STOT-single exposure	:	May cause damage to organs (optic nerve).
STOT-repeated exposure	:	Not classified.
Aspiration hazard	:	Not an aspiration hazard.
Viscosity, kinematic	:	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

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.

Components		Species	Test Results
Formaldehyde (CAS 50-00-0)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	4.3 - 7.8 mg/l, 48 hours
Fish	LC50	Striped Bass (Morone saxatilis)	10.302 - 16.743 mg/l, 96 hours
Methanol (CAS 67-56-1)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	> 10000 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	15400 mg/l, 96 hours

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)

Formaldehyde (CAS 50-00-0)	0.35
Methanol (CAS 67-56-1)	-0.77

12.4. Mobility in soil

This product is water soluble and may disperse in soil.

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 : Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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

N/A

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Formalin solutions with less than 25% formaldehyde are not regulated by DOT
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) : N/A

IMDG
Transport hazard class(es) (IMDG) : N/A

IATA
Transport hazard class(es) (IATA) : N/A

14.4. Packing group

Packing group (DOT) : **Exceptions**: 150 **Non-Bulk**: 203 **Bulk**:241
Packing group (IMDG) : N/A
Packing group (IATA) : N/A

14.5. Environmental hazards

Other information : No

14.6. Special precautions for user

DOT
Read safety instructions, SDS and emergency procedures before handling. This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less.

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)			
Formaldehyde (CAS 50-00-0)	Cancer Skin sensitization Respiratory sensitization Eye irritation Skin irritation Respiratory Tract irritation Acute toxicity Flammability		
CERCLA Hazardous Substance List (40 CFR 302.4)			
Formaldehyde (CAS 50-00-0)	LISTED		
Methanol (CAS 67-56-1)	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			
Chemical name	**CAS number**	**Reportable quantity (pounds)**	**Threshold planning quantity (pounds)**
Formaldehyde	50-00-0	100	500
SARA 311/312 Hazardous chemical	Yes		
SARA 313 (TRI reporting)			
Chemical name		**CAS number**	**% by wt.**
Formaldehyde		50-00-0	4
Methanol		67-56-1	1

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 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
Formaldehyde (CAS 50-00-0)
Methanol (CAS 67-56-1)
US. New Jersey Worker and Community Right-to-Know Act
Formaldehyde (CAS 50-00-0)
Methanol (CAS 67-56-1)
US. Pennsylvania Worker and Community Right-to-Know Law
Formaldehyde (CAS 50-00-0)
Methanol (CAS 67-56-1)
US. Rhode Island RTK
Formaldehyde (CAS 50-00-0)
Methanol (CAS 67-56-1)
US. California Proposition 65
WARNING: This product can expose you to chemicals including Formaldehyde, which is known to the State of California to cause cancer, and Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
Formaldehyde (CAS 50-00-0)
Methanol (CAS 67-56-1)

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.