



SAFETY DATA SHEET

Original Preparation Date: 05/05/2020

SDS#: Rev.A
Revision Date: 05/18/2020

1. Identification

Product identifier Tissue-Tek® 10% Neutral Buffered Formalin

Other means of identification

Product code 5993

Recommended use Formalin Fixative

Recommended restrictions None known

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Sakura Finetek USA, Inc.

Address 1750 W 214th St
Torrance, CA 90501
United States

Telephone 1 (310) 972-7800

Emergency phone number Chemtrec, 1 (800) 424-9300

Email SDSSupport@SakuraUS.com

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards 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

Environmental hazards Not classified

Label elements

Hazard symbol



Signal word Danger

Hazard statement Harmful if swallowed. May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer. May cause damage to organs.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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.

Response	If on skin: Wash with plenty of water/. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If swallowed: Rinse mouth. If skin irritation or rash occurs: Get medical advice/attention. If exposed or concerned: Call a poison center/doctor. Wash contaminated clothing before reuse.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None Known

3. Composition/information on ingredients

Mixtures: Mixtures

Chemical name	CAS number	%
Formaldehyde	50-00-0	3.7- 4
Methanol	67-56-1	1.1

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
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.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
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.
Most important symptoms/effects, acute and delayed	
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General Information	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.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and 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. Local
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Methods and materials for containment and cleaning up

authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

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.

Environmental precautions

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

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components

Formaldehyde (CAS 50-00-0)

Type	Value
STEL	2 ppm
TWA	0.75 ppm

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

Components

Methanol (CAS 67-56-1)

Type	Value
PEL	260 mg/m ³ 200 ppm

US. ACGIH Threshold Limit Values

Components

Formaldehyde (CAS 50-00-0)

Methanol (CAS 67-56-1)

Type	Value
Ceiling	0.3 ppm
STEL	250 ppm
TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components

Formaldehyde (CAS 50-00-0)

Methanol (CAS 67-56-1)

Type	Value
Ceiling	0.1 ppm
TWA	0.016 ppm
STEL	325 mg/m ³ 250 ppm
TWA	260 mg/m ³ 200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Specimen
Methanol (CAS 67-56-1)	15 mg/L	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.	
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.	
Individual protection measures, such as personal protective equipment		
Eye/face protection	Safety glasses with side-shields.	
Skin protection		
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.	
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.	
Respiratory protection	Chemical respirator with organic vapor cartridge and full facepiece.	
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.	
General hygiene considerations	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.	

9. Physical and chemical properties

Appearance	
Physical state	Liquid
Form	Liquid
Color	Colorless
Odor	Pungent
Odor threshold	No data available.
pH	7.1 - 7.3
Melting point/freezing point	No data available.
Initial boiling point and boiling range	207 °F (97.22 °C)
Flash point	> 199.4 °F (> 93.0 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	No data available.

Flammability limit – lower (%)	No data available.
Flammability limit – upper (%)	No data available.
Explosive limit - lower (%)	No data available.
Explosive limit - upper (%)	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	No data available.
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	No data available.
Other information	
Explosive properties	Not explosive.
Flammability class	IIIB
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Ammonia. Chlorine. Hydrochloric acids
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs by inhalation. Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Information on toxicological effects

Acute toxicity Harmful if swallowed. May cause an allergic skin reaction.

Components

Formaldehyde (CAS 50-00-0)

Acute

Inhalation

LC50

Oral

LD50

Skin corrosion/irritation

Serious eye damage/eye irritation

Respiratory or skin sensitization

ACGIH sensitization

Species

Test Results

Rat 0.48 mg/l, 4 Hours

Rat 100 mg/kg

Prolonged skin contact may cause temporary irritation

Direct contact with eyes may cause temporary irritation

Formaldehyde (CAS 50-00-0)	Sensitizer.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	May cause an allergic skin reaction
Germ cell mutagenicity	Suspected of causing genetic defects.
Carcinogenicity	May cause cancer.
IARC Monographs. Overall Evaluation of Carcinogenicity	Formaldehyde (CAS 50-00-0) 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	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause damage to organs.
Specific target organ toxicity - repeated exposure	Not classified.
Repeated dose toxicity	No data available.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.
Additional effects	No data available.

12. Ecological information

Ecotoxicity 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 (<i>Daphnia pulex</i>)	4.3 - 7.8 mg/l, 48 hours
Fish	LC50	Striped bass (<i>Morone saxatilis</i>)	10.302 - 16.743 mg/l, 96 hr

Components		Species	Test Results
Methanol (CAS 67-56-1)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	<i>Daphnia magna</i>	> 10000 mg/l, 48 hours
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	15400 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential Partition coefficient n-octanol / water (log Kow)
 Formaldehyde (CAS 50-00-0) 0.35
 Methanol (CAS 67-56-1) -0.77

Mobility in soil Mobile in soil.

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.

13. Disposal considerations

Disposal instructions	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.
Local disposal regulations Hazardous waste code	Dispose in accordance with all applicable regulations. The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	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 (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal

14. Transport information

DOT	Ground: Not regulated as a dangerous good
IATA	
UN number	UN3334
UN proper shipping name	Aviation regulated liquid, n.o.s. (Formaldehyde)
Transport hazard class(es)	9
Packing group	III
Subsidiary risk	-
Environmental hazards	No
ERG Code	9A Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
IMDG	
UN number	UN3334
UN proper shipping name	AVIATION REGULATED LIQUID, N.O.S. (Formaldehyde)
Transport hazard class(es)	9
Packing group	n/a
Environmental hazards	N/A
Marine pollutant	N/A
EmS	Not available.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. Not regulated.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	
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
Superfund Amendments and Reauthorization Act of 1986 (SARA)	Methanol (CAS 67-56-1) LISTED Immediate Hazard - Yes Delayed Hazard - Yes

	Fire Hazard - No			
	Pressure Hazard - No			
	Reactivity Hazard - No			
SARA 302 Extremely hazardous substance	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	1.1	
US state regulations				
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List	Formaldehyde (CAS 50-00-0)			
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)	Methanol (CAS 67-56-1)			
Safe Drinking Water Act Not regulated. (SDWA)	Formaldehyde (CAS 50-00-0)			
US. Massachusetts RTK - Substance List	Not regulated			
US. New Jersey Worker and Community Right-to-Know Act	Formaldehyde (CAS 50-00-0)			
US. Pennsylvania Worker and Community Right-to-Know Law	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.

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

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

16. Other information, including date of preparation or last revision

Issue date 05/05/2020
Revision date 05/18/2020
Version # A

NFPA ratings



Disclaimer

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.