



SAFETY DATA SHEET

Original Preparation Date: 05/05/2020

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

1. Identification

Product identifier Tissue-Tek® Xylene (mixed isomers)

Other means of identification

Product code 5988

Recommended use General laboratory usage

Recommended restrictions To be used by qualified personnel only

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Sakura Finetek USA, Inc.

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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 Highly flammable liquid and vapor

Health hazards Acute toxicity- Dermal (Category 4)
Acute toxicity- Inhalation (gases) (Category 4)
Acute toxicity- Inhalation (Dusts/mists) (Category 4)
Skin corrosion/irritation (Category 2)
Serious eye damage/eye irritation (Category 2)
Reproductive toxicity (Category 2)
Specific target organ toxicity (single exposure) (Category 3)
Aspiration toxicity (Category 1)
Flammable liquids (Category 3)

Environmental hazards Toxic to aquatic life with long lasting effects
Toxic to aquatic life

OSHA defined hazards

Label elements

Hazard symbol



Signal word

Warning

Hazard statement

Harmful if inhaled.
Harmful in contact with skin
Causes skin irritation

Causes serious eye irritation
Suspected of damaging fertility or the unborn child
May cause respiratory irritation.
May cause drowsiness or dizziness
May be fatal if swallowed and enters airways

Precautionary statement

Prevention	Obtain special instruction before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required Avoid breathing dust/fume/gas/mist/vapors/spray Use in well-ventilated area Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Keep away from heat/spark/open flames/hot surfaces. No smoking Keep container tightly closed Ground container and receiving equipment Use explosion-proof equipment Only use non-sparking tools Take precautionary measures against static discharge Avoid release to the environment.
Response	Wear protective gloves/ protective clothing/ eye protection/ face protection. IF SWALLOWED: call a POISON CENTER/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting IF ON SKIN: Wash with plenty of soap and water. Remove contaminated clothing and wash thoroughly. Wash contaminated clothing before reuse. If skin irritation occurs, get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call POISON CENTER/doctor if you feel unwell. IF exposed or concerned, get medical advice/attention.
Storage	Keep cool, away from sources of ignition in a well ventilated area. Store locked up
Disposal	Incineration at a licensed chemical disposal facility is the preferred method. Dispose of contents and container in accord with all applicable regulations. None Known

Hazard(s) not otherwise classified (HNOC)

3. Composition/information on ingredients

Mixtures: Mixtures

Chemical name	CAS number	%
<u>Xylenes</u>	1330-20-7	77 - 81%
Ethyl Benzene	100-41-4	18 - 22%

4. First-aid measures

Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.
Eye contact	Flush eyes with water for at least 15 minutes. Get medical attention
Ingestion	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.
Most important symptoms/effects, acute and delayed	The vapor is irritating to nose and throat. Prolonged exposure may cause pulmonary edema. Skin contact causes local defatting of the skin which will cause irritation and chaffing. Long term exposure may cause CNS disturbance and damage to the liver and kidneys.

Inhalation: Irritating to nose and throat. Inhalation of high concentrations can cause CNS disturbance, dizziness, headache, stupor, coma and death. Not normally a problem at ambient temperature.

Ingestion: Although the acute toxicity of xylene is low, ingestion can cause extreme irritation to GI tract. May cause mild to severe pulmonary injury if small amounts are aspirated into the respiratory tract.

Skin contact: Repeated contact causes defatting of the skin with resultant irritation and flaking.

Eye contact: May be irritating.

Chronic Exposure: Chronic exposure can cause skin rash and/or damage to eyes, liver or kidneys.

Aggravation of preexisting conditions: Impaired kidney and liver function may be aggravated. Preexisting eye, skin, and respiratory conditions may also be aggravated.

No data available

Indication of immediate medical attention and special treatment needed

General Information

N/A

5. Fire-fighting measures

Suitable extinguishing media

Alcohol type foam, carbon dioxide or dry chemical.

Unsuitable extinguishing media

Water is ineffective against xylene fires but may be used to cool adjacent containers.

Specific hazards arising from the chemical

Pyrolysis will release toxic oxides such as carbon monoxide

Special protective equipment and precautions for firefighters

No data available.

**Fire-fighting equipment/instructions
Specific methods**

Wear self-contained breathing apparatus and protective fire-fighting clothing.

Explosion: Vapor is heavier than air and may travel along ground to ignition source.

General fire hazards

TCC Flammable Limits: LEL 1% UEL 6.6%

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear Personal protective Equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

**Methods and materials for containment and cleaning up
Environmental precautions**

Remove all sources of ignition, absorb with a suitable absorbent (such as paper towels) and dispose

Environmental Fate: Not biodegradable.

Environmental Toxicity: Toxic to marine organisms. Prevent entry into waterways, sewers, basements or confined areas.

Xylene evaporates and is not expected to bioaccumulate. The material is removed from the air by dry and liquid adsorption. The half-life for xylene in the atmosphere is less than one day.

7. Handling and storage

Precautions for safe handling

Wear lab coat, chemical safety goggles, and gloves. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Ground containers, take precautions to prevent static discharge. Remove all sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage,
including any incompatibilities**

Store in a cool, well ventilated place. Store in a closed container, away from open flames or other sources of ignition. Store locked up. Keep away from sources of ignition, heat and incompatible materials

Oxidizing agents, strong acids, strong bases

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Value	Form
Xylene	150 ppm (STEL), 100ppm (TWA)	Liquid
Ethylbenzene	125 ppm (STEL), 20ppm (TWA)	

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

Components	Value	Form
Xylene	100ppm TWA, 435mg/m ³ TWA	N/A
Ethylbenzene	100ppm TWA, 435mg/m ³ TWA	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Value	Form
<u>Xylenes</u>	None	NA
<u>Ethylbenzene</u>	100ppm TWA, 125ppm (STEL)	

Biological limit values No Data available

ACGIH Biological Exposure Indices

Components	Value	Determinant
None	N/A	N/A

Exposure guidelines N/A

Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before and after use of product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical safety goggles/glasses.

Skin protection

Hand protection Chemical resistant, impervious gloves should be worn at all times when handling this product.

Other Appropriate personal protective equipment for the body, foot and any additional skin protection measures should be selected based on the tasks being performed and risks involved. Ventilation System: Usually not required. When required, Refer to the ACGIH document, "Industrial Ventilation, a Manual of Recommended Practices" for details about ventilation.

Respiratory protection Personal Respirator: Usually not required. In case of emergency, or when exposure levels are unknown, use a positive pressure, full face piece, air supplied respirator.

General hygiene considerations Wash hands before and after use of product. Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke.

9. Physical and chemical properties

Appearance

Physical state Liquid

Color Colorless

Odor Xylene, aromatic

Odor threshold No data available.

pH No data available.

Melting point/freezing point -34°C

Boiling point 140°C

Flash point Flash point: 27°C (80°F) Closed cup

Evaporation rate	0.86
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	5.1 @ 20C
Vapor density	3.7
Relative density	0.86 @ 20°C
Solubility (water)	Not miscible with water (solubility < 0.08%)
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	460-464°C
Decomposition temperature	No data available.
Viscosity	No data available.
Density	0.867 g/ml

10. Stability and reactivity

Reactivity	No data available
Chemical stability	Stable under normal storage and usage conditions
Possibility of hazardous reactions	Hazardous polymerization does not occur
Conditions to avoid	heat, flame and sources of ignition
Incompatible materials	oxidizing agents, strong acids, strong bases
Hazardous decomposition products	Carbon dioxide, carbon monoxide, smoke and irritating fumes

11. Toxicological information

Information on likely routes of exposure

Inhalation	Exposure to vapor or mist causes eye irritation. Irritating to respiratory system. May cause dyspnea (difficulty breathing or shortness of breath). May cause respiratory arrest. Symptoms may include chest tightness, coughing. May cause chemical pneumonitis. May cause cyanosis. Inhalation of high concentrations of vapors may cause dizziness or suffocation. Inhalation of high concentrations of vapor may cause anesthetic effects. May cause vasodilation of the peripheral vessels with facial flushing/redness. May produce a sensation of bodily warmth. May affect the cardiovascular system (cardiac arrhythmias). May cause sweet taste in mouth. May cause salivation. May cause dehydration. May cause dry mouth, thirst. May cause dry and sore throat. May cause nausea, vomiting. May cause anorexia. It may affect the liver. May affect the kidneys. May cause metabolic acidosis. May cause hypokalemia, hypobicarbonatemia, and hypophosphatemia. May affect behavior/central nervous system (excitement). May affect behavior/central nervous system (CNS depression, fatigue, irritability, memory loss, seizures, tremor, incoordination, coma). May affect behavior/central nervous system (headache, apprehension, vertigo, confusion, drowsiness, lassitude, lightheadedness). May affect behavior/central nervous system (slurred speech, difficulty in concentrating). May affect behavior/central nervous system (loss of consciousness, coma). May affect vision (blurred vision).
Skin contact	Irritating to skin. Moderately irritating to the skin. It may be absorbed through the skin. If absorbed through skin it may cause systemic effects

Eye contact	Causes eye irritation. Moderately irritating to the eyes. Causes conjunctivitis. May cause transient corneal injury. It may cause transient photophobia and disturbances of vision	
Ingestion	Causes digestive (gastrointestinal) tract irritation. Irritating to mouth, throat and stomach. May cause a burning sensation in the mouth, chest, and stomach. Causes gastrointestinal distress. Ingestion may cause nausea, vomiting, diarrhea. Aspiration hazard if swallowed. Aspiration may lead to pulmonary edema. Aspiration into the lungs can cause chemical pneumonitis. May affect the peripheral nervous system (flaccid paralysis without anesthesia (usually neuromuscular blockage)). May affect urinary system (kidneys). May affect liver. May cause metabolic acidosis. It may cause central nervous system depression.	
Symptoms related to the physical, chemical and toxicological characteristics	No data available	
Information on toxicological effects		
Acute toxicity		
Components	Test Results	
Xylenes	LD50/oral/rat = 3500 mg/kg Oral LD50 Rat; 4300 mg/kg LD50/oral/mouse = 2119 mg/kg LD50/dermal/rabbit = >1700 mg/kg (RTECS) >4350 mg/kg (EU Commission IUCLID dataset) LD50/dermal/rat = No information available LC50/inhalation/rat = 47635 mg/L Inhalation LC50 Rat 4 h 5000 ppm 4 h 6300 ppm 4 h 29.08 mg/L Rat 4 h LC50/inhalation/mouse = No information available Other LD50 or LC50 information = No information available	
Ethylbenzene	LD50/oral/rat = 3500 mg/kg Oral LD50 Rat LD50/oral/mouse = No information available LD50/dermal/rabbit = 15354-15400 mg/kg Dermal LD50 Rabbit LD50/dermal/rat = No information available LC50/inhalation/rat = 17.4 mg/L Inhalation LC50 Rat 4 h LC50/inhalation/mouse = 35500 mg/m ³ 2H Other LD50 or LC50 information = No information available No data available.	
Skin sensitization	No data available.	
Germ cell mutagenicity	No data available.	
Carcinogenicity	No data available.	
IARC Monographs. Overall Evaluation of Carcinogenicity	Xylene: Group 3 Ethylbenzene: Group 2B	
NTP Report on Carcinogens	Xylene: Not listed Ethylbenzene: Not listed	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Xylene: Not listed Ethylbenzene: Present	
Reproductive toxicity	Suspected of damaging fertility or the unborn child	
Specific target organ toxicity - single exposure	Respiratory system. Central nervous system	
Specific target organ toxicity - repeated exposure	No data available.	
Repeated dose toxicity	No data available.	
Aspiration hazard	Aspiration hazard. May be fatal if swallowed and enters airways.	
Chronic effects	Prolonged skin contact may cause skin irritation. Prolonged or repeated skin contact may cause dermatitis and defatting, dryness, and cracking of the skin. Prolonged or repeated ingestion may cause loss of appetite. Prolonged or repeated ingestion may cause weight loss. Prolonged or repeated inhalation may cause bronchitis with coughing, phlegm, and/or shortness of breath. Prolonged or repeated inhalation may cause nausea. Chronic exposure may cause dry and sore throat. Prolonged or repeated ingestion may affect the liver, and kidneys. Prolonged or repeated ingestion may affect the adrenal gland. Prolonged or repeated ingestion may affect the blood (changes in serum composition). Prolonged or repeated inhalation	

may affect the liver. Prolonged or repeated inhalation may affect the kidneys. Prolonged or repeated inhalation may affect the brain. Prolonged or repeated inhalation may cause loss of appetite. Prolonged or repeated inhalation may affect metabolism (weight loss). Prolonged or repeated inhalation may affect the peripheral nervous system (weakness, paresthesia - a tingling, prickling, pricking, burning sensation or numbness of the skin (known as the feeling "of pins and needles") generally of the hands and feet (extremities)). Prolonged or repeated inhalation may cause central nervous system effects. Prolonged or repeated inhalation may affect the blood (changes in white blood cell count). Prolonged or repeated inhalation may affect the blood (changes in red blood cell count). Prolonged or repeated inhalation may cause anemia. Prolonged or repeated inhalation may affect the bone marrow (hyperplasia). Chronic exposure to Xylene may be ototoxic (affect hearing). Chronic exposure may cause ringing in the ears (tinnitus)

Additional effects

No data available.

12. Ecological information

Xylene

Ecotoxicity

Toxic to marine organisms

Persistence and degradability

Not biodegradable

Bioaccumulative potential

Xylene evaporates quickly and is not expected to bioaccumulate. The material is removed from the air by dry and liquid adsorption. The half-life for xylene in the atmosphere is less than one day.

Mobility in soil

No data available.

Other adverse effects

No data available.

13. Disposal considerations

Disposal instructions

Waste from residues / unused products

Incineration at a licensed chemical disposal facility is the preferred method. Dispose of contents and container in accord with all applicable regulations.

Contaminated packaging

Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

14. Transport information

DOT

UN number

UN1307

UN proper shipping name

Xylenes (Mixture)

Class

3

Packaging group

III

Label(s)

UN1307, Xylenes (Mixture), 3. PG III

IATA

UN Number

UN1307

UN proper shipping name

Xylenes (Mixture)

Transport hazard class(es)

3

Packing group

III

Precautionary statements

3L

Environmental hazards

no information available


ERG Code	no information available
Special precautions for user	no information available
IMDG	
UN number	UN1307
UN proper shipping name	Xylenes (Mixture)
Transport hazard class(es)	3
Subsidiary risk	no information available
Packing group	III
Marine pollutant	no information available
EmS	F-E
Special precautions for user	no information available
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	no information available

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not applicable
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	No information available
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed
Superfund Amendments and Reauthorization Act of 1986 (SARA) SARA 302 Extremely hazardous substance	No information available
SARA 311/312 Hazardous chemical	Not subject to reporting requirements.
SARA 313 (TRI reporting)	Acute: Yes, Chronic: Yes Fire: Yes N/A Xylene: 1.0% de minimis concentration Ethylbenzene: 0.1% de minimis concentration

US state regulations

US. Massachusetts RTK - Substance List	Xylene: Present Ethylbenzene: Present
US. New Jersey Worker and Community Right-to-Know Act	Xylene: 2014, 500 lb TPQ Ethylbenzene: 0851, 500lb TPQ
US. Pennsylvania Worker and Community Right-to-Know Law	Xylene: Environmental hazard Ethylbenzene: Environmental hazard
US. California Proposition 65	 WARNING: This product can expose you to chemicals including Ethylbenzene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov

International Inventories

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)	Yes
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)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes

Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No data available
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).

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

Issue date 05/05/2020

Revision date 05/18/2020

Version # A

Further information

HMIS® ratings

NFPA ratings

Xylene



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.