



Tissue-Tek® X-CHEQ™ C Filter, Activated Carbon and Potassium Permanganate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Tissue-Tek® X-CHEQ™ C Filter, Activated Carbon and Potassium Permanganate
Product code : 8082

1.2. Recommended use and restrictions on use

None.

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

Oxidizing solids	Category 2
Skin corrosion/irritation	Category 1C
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Hazardous to the aquatic environment, acute hazard	Category 1

Hazardous to the aquatic environment, long-term hazard	Category 1
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Combustible dust

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard Pictograms (GHS US)



Signal word (GHS US)	: Danger
Hazard statement (GHS US)	: May intensify fire; oxidizer. Causes severe skin burns and eye damage. May cause respiratory irritation. Very toxic to aquatic life with long lasting effects. May form combustible dust concentrations in air.
Precautionary statement (GHS US)	: Keep away from heat. Keep/Store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles. Do not breathe dust. Wash thoroughly after handling. Use only

Tissue-Tek® X-CHEQ™ C Filter, Activated Carbon and Potassium Permanganate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.

Store in a well-ventilated place. Keep container tightly closed. 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

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	CAS Number	%
Activated Carbon	7440-44-0	> 75
Potassium Permanganate	7722-64-7	6-8

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	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	: IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
First-aid measures after ingestion	: Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Tissue-Tek® X-CHEQ™ C Filter, Activated Carbon and Potassium Permanganate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing.

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. Take off all contaminated clothing immediately. Contact with combustible material may cause fire. 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. Wash contaminated clothing before reuse.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Apply extinguishing media carefully to avoid creating airborne dust.
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 : Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. Greatly increases the burning rate of combustible materials. Containers may explode when heated. 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.
In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Use standard firefighting procedures and consider the hazards of other involved materials. May form combustible dust concentrations in air.
May intensify fire; oxidizer. Contact with combustible material may cause fire.

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. Use only non-sparking tools. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

6.1.2. For emergency responders

Protective equipment : Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

6.2. Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Tissue-Tek® X-CHEQ™ C Filter, Activated Carbon and Potassium Permanganate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.
- Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
- Other information : Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Ventilate the contaminated area. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimize dust generation and accumulation. Wear appropriate protective equipment and clothing during clean-up. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. 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 : Minimize dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Explosion-proof general and local exhaust ventilation. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles.
- Hygiene measures : Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Avoid exposure to water and contaminated air, otherwise the media is rendered useless. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Keep away from heat. Store in a cool, dry place out of direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see Section 10 of the SDS).

Tissue-Tek® X-CHEQ™ C Filter, Activated Carbon and Potassium Permanganate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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	
Potassium Permanganate (CAS 7722-64-7)	Ceiling	5 mg/m3	
US. OSHA Table Z-3 (29 CFR 1910.1000)			
Components	Type	Value	Form
Activated carbon (CAS 7440-44-0)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust
US. ACGIH Threshold Limit Values			
Activated carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable fraction.
Potassium permanganate (CAS 7722-64-7)	TWA	0.1 mg/m3	Inhalable fraction.
		0.02 mg/m3	Respirable fraction.
US. NIOSH: Pocket Guide to Chemical Hazards			
Components	Type	Value	Form
Activated carbon (CAS 7440-44-0)	TWA	2.5 mg/m3	Respirable.
US. NIOSH: Pocket Guide to Chemical Hazards			
Components	Type	Value	Form
Potassium permanganate (CAS 7722-64-7)	STEL	3 mg/m3	Fume.
	TWA	1 mg/m3	Fume.

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ventilate as needed to control airborne dust. Use explosion-proof ventilation equipment if airborne dust levels are high. 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. Eye wash facilities and emergency shower must be available when handling this product.
Environmental exposure controls	: No biological exposure limits noted for the ingredient(s).

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Frequent change is advisable.
Eye protection:
Wear safety glasses with side shields (or goggles) and a face shield. Use tight fitting goggles if dust is generated.
Skin and body protection:
Wear appropriate chemical resistant clothing. 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.

Tissue-Tek® X-CHEQ™ C Filter, Activated Carbon and Potassium Permanganate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Respiratory protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid Granules
Color	: Purple
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Oxidizer (Solid, Gas)
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 0.7
Solubility	: KMnO4 - Yes, Molecular Sieve - No
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Density	: 44.00 – 46.00 lb/ft³
Explosive properties	: Not Explosive
Oxidizing properties	: May intensify fire; oxidizer.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Greatly increases the burning rate of combustible materials.

10.2. Chemical stability

Material is stable under normal conditions.

10.3. Possibility of hazardous reactions

Contact with combustible material may cause fire.

Tissue-Tek® X-CHEQ™ C Filter, Activated Carbon and Potassium Permanganate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

10.4. Conditions to avoid

Keep away from heat, sparks and open flame. Contact with incompatible materials. Minimize dust generation and accumulation. High humidity.

10.5. Incompatible materials

Combustible material. Reducing agents. Halogenated compounds. Water, moisture.

10.6. Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Causes digestive tract burns.
Acute toxicity (dermal)	: Causes severe skin burns.
Acute toxicity (inhalation)	: May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Acute toxicity (eye)	: Causes serious eye damage

Components	Species	Test Results
Activated Carbon (7440-44-0)		
Acute, Oral, LD50	Rat	>10000 mg/kg
Potassium Permanganate (7722-64-7)		
Acute, Oral, LD50	Rat	50 mg/kg

Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not a respiratory sensitizer
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	: This product is not expected to cause reproductive or developmental effects
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified.
Aspiration hazard	: Not an aspiration hazard.
Viscosity, kinematic	: No data available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Very Toxic to aquatic life with long lasting effects.
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12.2. Persistence and degradability

No data is available on the degradability of this product.

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

Tissue-Tek® X-CHEQ™ C Filter, Activated Carbon and Potassium Permanganate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. 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

UN1490

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Potassium Permanganate
Proper Shipping Name (IMDG) : Potassium Permanganate
Proper Shipping Name (IATA) : Potassium Permanganate

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 5.1

IMDG

Transport hazard class(es) (IMDG) : 5.1

IATA

Transport hazard class(es) (IATA) : 5.1

14.4. Packing group

Packing group (DOT) : II
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Other information : IATA – Yes
IMDG - Yes

14.6. Special precautions for user

DOT

Read safety instructions, SDS and emergency procedures before handling.

IMDG

Read safety instructions, SDS and emergency procedures before handling.

IATA

Read safety instructions, SDS and emergency procedures before handling.

Tissue-Tek® X-CHEQ™ C Filter, Activated Carbon and Potassium Permanganate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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 - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - Yes	
SARA 302 Extremely hazardous substance		
Not listed.		
SARA 311/312 Hazardous chemical - Yes		
SARA 313 (TRI reporting)		
Chemical name	CAS number	% by wt.
Potassium permanganate	7722-64-7	6-8

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

Potassium permanganate (CAS 7722-64-7)

US. New Jersey Worker and Community Right-to-Know Act

Activated carbon (CAS 7440-44-0)

Potassium permanganate (CAS 7722-64-7)

Tissue-Tek® X-CHEQ™ C Filter, Activated Carbon and Potassium Permanganate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

US. Pennsylvania Worker and Community Right-to-Know Law

Potassium permanganate (CAS 7722-64-7)

US. Rhode Island RTK

Not regulated.

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