# MATERIAL SAFETY DATA SHEET

(In accordance with ISA 11014-1 Standard)

Product Name: Tissue-Tek® VIP® Fixative Revision Date: 2008-12-01

## 1. Identification of the Substance

**Product Name:** Tissue-Tek® VIP® Fixative – (Product Codes #5989, 5990, and 5991)

**Manufactured For:** Sakura Finetek USA, Inc.
Torrance, CA 90501 USA
**Tel: 310 972-7800**

**Emergency Telephone Number:**
**800-424-9300 (Chemtrec)**

## 2. Composition/Data on Components

| Hazardous Component Specific Chemical Identity | Exposure Limits/ Toxic Data | CAS # | % Weight |
|---|---|---|---|
| Formaldehyde | PEL-0.75-ppm TWA, STEL-2.00-ppm, Action Level-0.5-ppm | 50-00-0 | 4% |

Non-Hazardous, Proprietary Ingredient: SC-14 is an environmentally safe complex designed to stabilize fixatives, reduce artifacts, enhance cellular staining, and eliminate solids from forming in any tissue processor's transfer lines and valves.

## 3. Hazardous Identification

**DANGER: May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Causes irritation to skin, eyes, and respiratory tract. Strong sensitizer and may cause blindness. The perception of formaldehyde by odor and eye irritation becomes less sensitive with time as a person adapts to formaldehyde. This can lead to overexposure if a worker is relying on formaldehyde's physical warning properties to be alerted.**

| HMIS Hazard Rating | | HMIS Hazard Rating Scale | |
|---|---|---|---|
| Heath: | 2 | Insignificant: | 0 |
| Flammability: | 1 | Slight: | 1 |
| Reactivity: | 1 | Moderate: | 2 |
| | | High: | 3 |
| | | Extreme: | 4 |

Primary Entry Routes: Skin and eye contact
Target Organs: Irritation of skin and eyes
Carcinogenicity: IARC, NTP, and OSHA do not list chemical ingredients as a carcinogen

## 4. First Aid Measures

**Emergencies and First Aid Procedures:** Call a physician immediately.
*While awaiting the physician, administer first aid accordingly:*
**Inhalation**: Remove victim from contaminated area immediately and contact a physician. If breathing is difficult, give oxygen. Administer artificial respiration if necessary.
**Eye Contact**: While lifting upper and lower lids, immediately flush eye with plenty of water for a least 15 minutes. Seek medical attention.
**Skin Contact**: Contaminated clothing should be removed immediately and the affected body areas should be flushed with water for a period of approximately 15 minutes. If symptoms persist, seek medical attention.
**Ingestion**: Induce vomiting by drinking 2 glasses of water and pushing finger down throat. Seek immediate medical attention.

## 5. Fire Fighting Measures

**Flash Point (Method Used):** 185°F (TAG Closed Cup)
**Explosion:** Above the flash point, explosive vapor-air may be formed. Containers may explode when involved in a fire.
**Extinguishing Media:** Water spray, dry chemical, alcohol foam, or carbon dioxide.
**Special Information:** In the event of a fire, wear full protective clothing and NIOSH-approved self contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills.

## 6. Accidental Release Measures

**Steps to be Taken in Case Material is Released or Spilled:** Large spills must be immediately **treated** with Tissue-Tek® NEUTRA-FORM®. The area of the spill should be evacuated until the proper authorities have judged it safe for re-entry. Leaking containers must be placed in a well-ventilated area for proper containment of the formalin vapors. Any small spills may be absorbed and neutralized with Tissue-Tek® NEUTRA-WIPES®. The above mentioned products may be obtained from Sakura Finetek (800-725-8723). US Regulations (CERCLA) require reporting **untreated** spills and releases to soil, water and air in excess of reportable quantities.

## 7. Handling and Storage

Formalin should always be stored in closed containers and kept in a cool, well ventilated area that is away from heat, sparks, and an open flame. Use only DOT approved containers for storage and shipping purposes.

## 8. Exposure Controls/Personal Protection

**Ventilation:** Use room ventilation sufficient to meet PEL or use in a chemical hood.
**Respiratory Protection:** Respiratory protection is required if airborne concentration exceeds the PEL. For concentrations above the PEL a supplied air respirator is recommended.
**Protective Gloves:** Laboratory neoprene or rubber gloves are recommended.
**Eye Protection:** Standard laboratory safety goggles recommended. Contact lenses should not be worn in the laboratory.
**Other Protective Equipment/Clothing:** A laboratory coat or apron is suggested.

## 9. Physical and Chemical Properties

**Appearance and Odor:** Clear, colorless liquid.
**pH:** 6.8-7.4
**Boiling Point:** 212°F
**Melting Point:** 32°F
**Solubility in Water:** Complete
**Specific Gravity (H2O=1):** 1.09
**Vapor Pressure:** Essentially the same as water
**Evaporation Rate:** Essentially the same as water

## 10. Stability and Reactivity

**Stability:** Stable under ordinary conditions of use and storage.
**Incompatibilities:** Avoid oxidizing agents and alkalis. Reaction with hydrochloric acid may form bis-chloromethyl ether, an OSHA regulated carcinogen.
**Conditions to Avoid:** Heat, flames, ignition sources, and incompatibles.
**Hazardous Decomposition Products**: May form carbon dioxide, carbon monoxide, and formaldehyde when heated to decomposition.
**Hazardous Polymerization:** Will not occur.

## 11. Toxicological Information

Formaldehyde only: oral rat LD50: 100 mg/Kg, skin rabbit LD50: 270 uL/Kg, Irritation data: eye rabbit: 750 ug severe; Inhalation rat LD50: 203 mg/m3

*Topical Effects*

**Skin**: Avoid contact at all times. This chemical can be a severe skin irritant. Symptoms may include cracking, drying, white discoloration, and scaling. Intermittent contact may result in allergic dermatitis, possibly of an eczematous nature.

**Eyes**: Air concentrations of 20 ppm can be quickly irritating to the eyes. Depending on the concentration that comes in contact with an eye, the injuries sustained may range from mild discomfort to permanent corneal clouding and loss of vision. Severity is also dependent on how quickly the eyes are flushed with water after the accident.

*Systemic Effects*

**Ingestion**: Formalin solutions can cause varying degrees of irritation to all mucous membranes of the mouth and throat. Exposure to the gastrointestinal track may cause nausea and vomiting. Actual ingestion could lead to stomach pains, loss of consciousness and death.

**Inhalation:** Formalin in concentrations above 0.5 ppm can irritate the nose and throat.

## 12. Ecological Information

The following toxicity information pertains to the formalin waste. This material has been documented to be toxic to aquatic life. The LC50 /96-hours values for fish are between 300 and 500 mg/l.

## 13. Advice on Disposal

**Disposal Procedures:** Formalin waste is considered to be hazardous and must be treated with a CAL-EPA Certified Treatment Technology or sent to a RCRA approved waste facility. **ONLY** treat hazardous formalin waste with Tissue-Tek® NEUTRALEX® in accordance to treatment instructions.

**WARNING:** Treating formalin waste with Non-Certified methods can result in a waste that is more toxic then the untreated formalin waste. Follow all local, state, and federal laws regarding the clean up and removal of toxic substances. US Regulations (CERCLA) require reporting **untreated** waste and releases to soil, water and air in excess of reportable quantities.

**Recycling**: This product should not be recycled. Typical recycling will decompose the SC-14 complex and thus alter the fixative's ability to effectively preserve tissue.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

**SARA 311/312:** Acute: Yes Chronic: Yes Fire: Yes Pressure: No

**SARA 302:** This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements under the SARA Section 302 (40 CFR 372): Formaldehyde

**CERCLA:** The following components of this product are specifically listed as hazardous substances in 40 CFR 302.4 and are present at levels which could require reporting: Formaldehyde <= 0.0004% (4-ppm)

**Massachusetts:** The following substance appears on the Massachusetts Substances List:
Formaldehyde <= 0.0004% (4ppm)

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):** This product contains the following chemical known to the State of California to cause cancer: Formaldehyde <= 0.0004% (4-ppm)

## 16. Other Information

This Material Safety Data Sheet has been furnished on request. A revised Material Safety Data Sheet will be furnished only if requested, also in case of specification changes. The above information, which is accurate to the best of our knowledge and belief, describes the safety aspects of our product but does not warrant any product properties. The company gives no warranty as to the accuracy or completeness of such information.