F.S. Fix™

1. Identification

Product Name: F.S. Fix™ **Item #:** 6500, 6501, 6505 **Web SDS:** S20

Synonyms: N/A

Recommended Use: Tissue Fixation

Restrictions on Use: N/A

Manufacturer:
BBC Biochemical
409 Eleanor Lane,
Mount Vernon, WA 98273
1-800-635-4477

In Case of Emergency:
Chemtrec US 1-800-424-9300
Chemtrec International 703-527-3887

2. Hazards Identification

OSHA Hazard Classification(s):

Acute Toxicity - Oral - Category 3
Acute Toxicity - Inhalation - Category 3
Skin Corrosion - Category 1C
Eye Damage - Category 1
Germ Cell Mutagenicity - Category 1B
Toxic to Reproduction - Category 1B
Specific Target Organ Toxicity (single exposure) - Category 2
Specific Target Organ Toxicity (repeated exposure) - Category 2
Sensitization - Skin - Category 1A
Sensitization - Respiratory - Category 1A
Carcinogenicity - Category 1A
Flammable Liquids - Category 2

Signal Word: Danger

Hazard Statement(s): Toxic if swallowed. Toxic if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage. May cause genetic defects. May damage fertility or the unborn child. May cause damage to organs(lungs,nose,respiratory system). May cause damage to organs(lungs, nose, respiratory system, central nervous system, liver, blood) through prolonged or repeated exposure. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause cancer. Highly flammable liquid and vapor.

Pictogram(s):

Precautionary Statement(s): Prevention: Wash body thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing dust, vapors. Use only outdoors or in a well-ventilated area. Do not breathe dusts or mists. Wear protective gloves, protective clothing, eye protection and face protection. Wear eye protection, face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust, vapors. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves. Wear NIOSH approved respiratory protection.

Response: If swallowed: Immediately call a doctor. Rinse Mouth. Specific treatment (see first aid section on this label). If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Take off all contaminated clothing and wash it before reuse. Immediately call a doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing If exposed or concerned: Get medical attention. If exposed or concerned: Call a doctor. Call a doctor if you feel unwell. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical attention. If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a doctor.

Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents/container in accordance with local regulations.

Descriptions of Hazards not otherwise classified: N/A

Percent of mixture with unknown acute toxicity: N/A

3. Composition and Information on Ingredients

Chemical Name	Common Name	CAS #	Concentration %
Water		7732-18-5	Trade Secret
Ethyl Alcohol		64-17-5	Trade Secret
Methyl Alcohol		67-56-1	Trade Secret
Isopropyl Alcohol		67-63-0	Trade Secret
Formaldehyde 37%		50-00-0	Trade Secret
Glacial Acetic Acid		64-19-7	Trade Secret
Select Buffers		Trade Secret	Trade Secret

4. First Aid Measures

Eye Contact: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing and wash before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.

Inhalation: Remove to fresh air; give artificial respiration if breathing has stopped. Get medical advice/attention if you feel unwell.

Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.

Symptoms: Irritation eyes, nose, throat; headache, dizziness. May cause sensitization by skin or respiratory contact.

Recommendations for immediate medical care/special treatment: Get medical advice/attention if you feel unwell.

5. Fire- Fighting Measures

Extinguishing Media: Dry chemical, carbon dioxide, alcohol foam, water. Use water spray to cool fire-exposed containers and disperse vapors.

Fire Hazards (Chemical): OSHA classified Flammable Liquid Category 2

Special Protective Equipment: Fire fighters should use self-contained breathing apparatus and protective clothing.

Precautions for Firefighters: Carbon monoxide and unidentified organic compounds may be formed during combustion. Vapors can travel distances to ignition source and flash back. Cool fire exposed containers with water. Fine mist or spray may be flammable at temperatures below the flash point. When heated above the flash point this material emits flammable vapors which, when mixed with air, can burn or be explosive.

6. Accidental Release Measures

Emergency Procedures: Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate all sources of ignition and provide ventilation.

Protective Equipment: See section 8

Environmental Precautions: Prevent release to the environment by using barriers.

Containment and Clean-Up Procedures: Use barriers to prevent spreading. Collect spill in container. Call waste authorities.

7. Handling and Storage

Handling: Do not breathe vapors. Do not eat, drink or smoke when using this product. Keep away from heat, sparks, open flames, hot surfaces. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store away from heat, sparks and sources of ignition.

8. Exposure Controls/Personal Protection

OSHA Permissible Exposure Limits (PELs):

Reagent	CAS #	OSHA PEL TWA

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Ethyl Alcohol	64-17-5	1000ppm
Methyl Alcohol	67-56-1	200ppm
Isopropyl Alcohol	67-63-0	400ppm
Formaldehyde 37%	50-00-0	0.75ppm
Glacial Acetic Acid	64-19-7	10 ppm, 25 mg/m3 TWA

ACGIH Threshold Limit Values (TLVs):

Reagent	CAS #	ACGIH PEL TLV	ACGIH STEL
Ethyl Alcohol	64-17-5	1000ppm	1000ppm
Methyl Alcohol	67-56-1	200ppm	250ppm
Isopropyl Alcohol	67-63-0	200ppm	400ppm
Formaldehyde 37%	50-00-0	0.3 ppm (0.37 mg/m3)	
Glacial Acetic Acid	64-19-7	10 ppm, 25 mg/m3 TWA	15 ppm, 37 mg/m3 STEL

Engineering Controls: Use in a well ventilated area to prevent exposure. Maintain eyewash fountain and quick-drench facilities in work areas.
Personal Protective Measures: Wear gloves, lab coat, eye protection and impervious footwear. Contact lenses should not be worn when working with this material.
Special PPE Requirements: If ventilation hood not available wear respirator.

9. Physical and Chemical Properties Section

Appearance: Blue/Green, Liquid
Molecular Weight: N/A
Molecular Formula: N/A
pH: N/A
Boiling Point and Boiling Range: N/A
Melting Point/Freezing Point: N/A
Flash Point: 68ºF
Specific Gravity/Relative Density: 0.880-0.890
Odor: Vinous
Odor Threshold: N/A
Color: Blue/Green
Flammability (solid/gas): N/A
Vapor Density: N/A
Upper/Lower flammability or explosive limits: N/A
Vapor Pressure: N/A
Evaporation Rate: N/A
Partition Coefficient: n-octanol/water: N/A
Viscosity: N/A
Auto-ignition temperature: N/A
Solubility: Miscible in water
Decomposition Temperature: N/A

10. Stability and Reactivity

Reactivity:
Chemical Stability: Stable
Conditions of Stability/Instability: Avoid source of heat.

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Stabilizers needed: None
Safety issue indicated by appearance change: N/A
Other: N/A
Hazardous Reactions: N/A
Hazardous Polymerization: Does not occur
Conditions to avoid: Sources of heat.
Classes of Incompatible Materials: Oxidizers, Strong Acids, Strong Bases
Hazardous Decomposition Products: Thermal-oxidation degradation can produce oxides of carbon. Toxic gases and vapors (I.e. Carbon monoxide) may be released in a fire.

11. Toxicological Information

Likely Routes of Exposure

Eyes: Formaldehyde solution splashed in the eye can cause injuries ranging from transient discomfort to severe, permanent corneal clouding and loss of vision. The severity of the effect depends on the concentration of formaldehyde in the solution and whether or not the eyes are flushed with water immediately after the accident.

Skin: Formaldehyde is a severe skin irritant and sensitizer. Contact with formalin causes white discoloration, smarting, drying, cracking and scaling. Prolonged and repeated contact can cause numbness and hardening or tanning of the skin. Previously exposed persons may react to future exposure with an allergic eczema dermatitis or hives.

Inhalation: Formaldehyde is highly irritating to the upper respiratory tract and eyes. Concentrations of 0.5 to 2.0ppm may irritate the eyes, nose and throat of some individuals. Concentrations of 3 to 5ppm also cause tearing of the eyes and are intolerable to some persons. Dizziness, headache. Vapors are harmful with repeat exposure. Contains formaldehyde a respiratory sensitizer. May aggravate asthma or other lung diseases and respiratory system. Highly irritating to the upper respiratory tract and eyes.

Ingestion: Liquids containing 10 to 40 percent formaldehyde cause severe irritation and inflammation of the mouth, throat, and stomach. Severe stomach pains will follow ingestion with possible loss of consciousness and death. Ingestion of dilute formaldehyde solutions (0.03-0.04 percent) may cause discomfort in the stomach and pharynx. May cause diarrhea. May cause allergic reaction or blindness.

Signs or Symptoms of Exposure: Irritation to eyes, nose, throat; headache; dizziness. See above for more information. Nausea. Poison by ingestion. May cause damage to mouth, throat, stomach and gastrointestinal tract. May cause diarrhea. May cause allergic reaction or blindness. Note: The percent of formaldehyde by odor and eye irritation becomes less sensitive with time as one adapts to a formaldehyde. This can lead to overexposure if a worker is relying on formaldehyde's warning properties to alert him or her to the potential for exposure.

Effects from short term exposure (delayed, immediate, chronic): Irritation to the eyes, nose, throat; headache, dizziness, nausea. May cause cancer, mutagenic and reproductive effects. may effect organs after single or repeat exposure.

Acute Toxicity (Numerical Measures):

Formaldehyde: LD50 385mg/kg (oral, mouse); LD50 100mg/kg (oral, rat); LC50 200 mg/m3 (inh, rat); LC50 454 mg/m3/4H (inh, mouse) LD50 270 uL/kg (skin, rabbit); LD50 270 mg/kg (skin, rabbit)

Ethyl Alcohol: LD50(oral,mouse)=3450 mg/kg; LC50(inhalation,mouse)=39000 mg/m3/4H

Glacial Acetic Acid: LD50 (mammal, skin)=1060mg/kg; LD50 (rabbit, skin)=1060 mg/kg; LC50(inhalation, mouse)=5620 ppm/1H; LC50(inhalation, mouse)=5620 mg/m3/1H

Carcinogenicity (NTP, IARC, OSHA): Contains Formaldehyde IARC Group 1 Carcinogen associated with nasal sinus cancer, nasopharyngeal cancer, myeloid leukemia.

12. Ecological Information

Ecotoxicity: Formaldehyde is highly toxic to algae, protozoa and other unicellular organisms and slightly toxic to fish. In the atmosphere the material is rapidly degraded by photolysis and photooxidation. Formaldehyde is mobile in the soil. In water or soil, formaldehyde is biodegraded in a few days. Experiments performed on a variety of fish and shrimp show no bioconcentration of formaldehyde.

Effects Data for 100% Glacial Acetic Acid 96 h LC-50 (fathead minnow): > 100mg/L 48 h LC-50 (golden orfe): 410 mg/L 48 h LC-50 (mosquito fish): 251 mg/L 96 h LC-50 (daphnid): > 100 mg/L

Persistence and degradability: N/A

Bioaccumulation Potential (octanol-water partition coefficient, BCF): Oxygen Demand Data for 100% Glacial Acetic

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Acid BOD-5: 340-880 mg/g BOD-20: 900 mg/g COD: 1,030 mg/g

Mobility in the soil: N/A

Adverse Environmental Effects: This material is a strongly acidic aqueous solution, and this property may cause adverse environmental effects.

13. Disposal Considerations

Recommended Disposal Containers: Check with your local waste authorities*

Recommended Disposal Methods: Do not dispose of in drains, check with your local waste authorities.*

Physical/Chemical Properties affecting Disposal: See section 2 and section 9 applicable information.*

Special Precautions for Landfill and Incineration Activities: Check with your local waste authorities.*

Waste Stream: Consult your local or regional authorities.*

14. Transport Information

UN Number: UN1993

UN Proper Shipping Name: Flammable Liquid, n.o.s. (Ethanol)

Transport Hazard Class(es): 3

Packing Group Number: II

Environmental Hazards (IMDG code):

Marine Pollutant: No

Transport in Bulk (IBC Code): N/A

Special Transport Precautions: N/A

15. Regulatory Information

OSHA: N/A

DOT: N/A

EPA: N/A

CPSC: N/A

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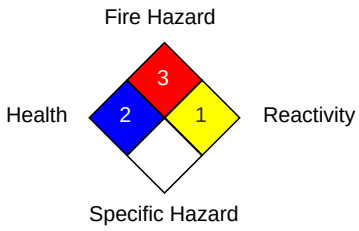
16. Other Information

Revision Date: 02/03/2016

NFPA

Health	2
Fire Hazard	3
Reactivity	1
Specific Hazard	

National Fire Protection Association (USA) NFPA



HMIS

Health	2
Flammability	3
Physical Hazard	1
Personal Protection	

Hazardous Material Information System HMIS

Health	2
Flammability	3
Physical Hazard	1
Personal Protection	

Notice to Reader:

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