BBC Biochemical MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Information

Common Name:	**F.S. Acid Alcohol™**	**Code:**	**6520**
Supplier:	**BBC Biochemical**	**MSDS#:**	**6520**
Synonym:	**None.**	**Validation Date:**	**3-4-09**
Trade Name:	**None.**	**Print Date:**	**3-4-09**
Material Uses:	**Staining.**	**Responsible Name:**	**Dr. B**
Manufacturer:	**BBC Biochemical PO Box 1320 409 Eleanor Lane Mount Vernon, WA 98273 1-800-635-4477**	**In Case of Emergency: 1-800-424-9300 Chemtrec USA 1-202-483-7616 Chemtrec Intrl 1-800-635-4477**	

Section 2. Composition and Information on Ingredients

Name	CAS#	OSHA PEL/TWA	OSHA STEL
1) Water	1737-87-1		
2) Denatured Ethanol Mixuter			
Ethyl Alcohol	64-17-5	1000 ppm	None established
Methyl Alcohol	67-56-1	200 ppm	250 ppm
Isopropyl Alcohol	67-63-0	400 ppm	500 ppm
3) Hydrochloric Acid (conc)	7647-01-0	5 ppm	5 ppm

Section 3. Hazards Identification

Physical State and Appearance	Clear, colorless liquid with a vinous odor.
Emergency Overview	Not available.
Routes of Entry	Eye contact, inhalation, ingestion, skin contact.
Potential Acute Health Effects	
Eyes	Irritation.
Skin	Irritation.
Inhalation	May cause dizziness, headache, nausea, and narcosis.
Ingestion	May cause blindness, nausea, damage to gastrointestinal tract, liver, kidneys, and cardiovascular system.
Potential Chronic Health Effects	Components not listed (IARC, NTP, OSHA) as cancer causing agents.
Medical Conditions Aggravated by Overexposure	Kidney, liver, heart, and GI conditions.
Overexposure/ Signs/Symptoms	

Section 4. First Aid Measures

Eye Contact	Immediately flush thoroughly with water for at least 15 minutes.
Skin Contact	Wash area thoroughly with copious amounts of water. Remove contaminated clothing and clean before wearing again.
Inhalation	Remove to fresh air; give artificial respiration if breathing has stopped.
Ingestion	If conscious, drink water. Seek medical attention. Do not induce vomiting.
Notes to Physician	Not available.

Section 5. Fire Fighting Measures

Flammability of the Product	Flammable.
Auto-ignition Temperature	Not available.
Flash Points	About 55° F
Flammable Limits	Not available.
Products of Combustion	Not available.

Fire Hazards in Presence Of Various Substances	Not available.
Explosion Hazards in Presence of Various Substances	Not available.
Fire Fighting Media and Instructions	Dry chemical, carbon dioxide, alcohol foam. Use water spray to cool fire-exposed containers and disperse vapors.
Protective Clothing (Fire)	Fire fighters should use self-contained breathing apparatus and protective clothing.
Special Remarks on Fire Hazards	Vapors can travel distances to ignition source and flash back.
Special Remarks on Explosion Hazards	

Section 6. Accidental Release Measures

Small Spill and Leak	Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate all sources of ignition and provide ventilation.
Large Spill and Leak	Same as above.

Section 7, Handling and Storage

Handling	Use adequate ventilation. Avoid repeated or prolonged skin contact or breathing of vapors. Do not get in eyes.
Storage	Store and use in areas away from heat, sparks, and open flame. Store in tightly closed containers in a cool, dry, well-ventilated, fire-resistant area. Store away from oxidizing agents.

Section 8. Exposure Controls / Personal Protection

Engineering Controls

Personal Protection

Eyes	Safety glasses with approved side shields should be worn at all times. Eye wash station should be available.
Body	Protective clothing should be worn to minimize skin contact. Safety shower should be available.
Respiratory	Use NIOSH of MSHA approved respirators in absence of proper environmental control.
Hands	Neoprene, Nitrile or equivalent gloves should be worn.
Feet	Impervious footwear should be worn to prevent skin contact.
Personal Protection in Case of a Large Spill	See above.

Product Name	**Exposure Limits**
1)Ethyl Alcohol CAS 64-17-5	OSHA PEL 1000ppm TWA
2)Methyl Alcohol CAS 67-56-1	OSHA PEL 200ppm TWA
3)Isopropyl Alcohol CAS 67-63-0	OSHA PEL 400ppm TWA
4)Hydrochloric Acid CAS 7647-01-0	OSHA PEL 5ppm TWA

Consult Local authorities before acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Clear, colorless liquid.	**Odor:**	Vinous.
Molecular Weight	Not applicable.	**Taste:**	Not available.
Molecular Formula	Not applicable.	**Color:**	Colorless.
pH (1%/Water)	Not applicable.		
Boiling/Condensation Point	173° F		
Melting/Freezing Point	Not applicable.		
Critical Temperature	Not applicable.		
Specific Gravity	Not applicable.		
Vapor Pressure	Not applicable.		
Vapor Density	Not applicable.		
Volatility	Not applicable.		
Odor Threshold	Not applicable.		
Evaporation Rate	Not applicable.		
VOC	Not available.		
Viscosity	Not available.		
Ionicity (in water)	Not available.		
Dispersion Properties	Not available.		
Solubility	Complete in water.		
Physical Chemical Comments	Not available.		

Section 10. Stability and Reactivity

Stability and Reactivity	Stable.
Conditions of Instability	Heat.
Incompatibility with Various Substances	Oxidizers.
Hazardous Decomposition Products	Strong oxidizing agents, such as nitrates, perchlorates, peroxides, chromic, nitric and sulfuric acid.
Hazardous Polymerization	Does not occur.

Section 11. Toxicological Information

Toxicity to Animals	Ethyl Alcohol CAS 64-17-5 oral rat LD50: 7060 mg/kg; inhalation rat LC50: 20,000 ppm/10H; Irritation data, eye, rabbit: 500 mg/24H moderate; Investigated as a tumorigen, mutagen, reproductive effector. Methyl alcohol: oral rat LD50: 5628 mg/kg; inhalation rat LC50: 64000 ppm/4H; skin rabbit LD50: 15800 mg/kg; Irritation data,skin,rabbit: 20 mg/24H, Moderate; Investigated as a tumorigen, mutagen, reproductive effector. Isopropyl alcohol: oral rat LD50: 5045 mg/kg; skin rabbit LD50: 12.8 gm/kg; inhalation, rat: 16,000 ppm 8 hr. Isopropyl Alcohol CAS 67-63-0 Oral rat LD50: 5045 mg/kg; skin rabbit LD50: 12.8 gm/kg; inhalation rat LC50: 16,000 ppm/8-hour; Methyl Alcohol CAS 67-56-1 Oral rat LD50: 5628 mg/kg; inhalation rat LC50: 64000 ppm/4H; skin rabbit LD50: 15800 mg/kg; Irritation data-standard Draize test: skin, rabbit: 20mg/24 hr. Moderate; eye, rabbit: 100 mg/24 hr. Hydrochloric Acid CAS 7647-01-0 Inhalation rat LC50: 3124 ppm/1H; oral rabbit LD50: 900 mg/kg
Chronic Effects on Humans	This product contains the following toxic chemical subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372: CAS # Chemical Name Percent by Weight 67-56-1 Methanol <2%
Other Toxic Effects on Humans	
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on Other Toxic Effects on Humans	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BODS and COD	Not available.
Biodegradable/OEDC	Not available.
Mobility	Not available.
Toxicity of the Products of Biodegradation	Not available.
Special Remarks on The Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Information	Not available.
Waste Stream	Not available.
Consult your local or regional authorities.	

Section 14. Transport Information

DOT Classification	Flammable liquid, UN1993, Ethanol, 3, II
Marine Pollutant	Not available.
Hazardous Substances Reportable Quantity	Not available.

Special Provisions for Transport	Not applicable.
TDG Classification	Flammable liquid, UN1993, Ethanol, 3, II
ADR/RID Classification	Not controlled under ADR (Europe).
IMO/IMDG Classification	Not controlled under IMDG.
ICAO/IATA Classification	Check IATA Regulations, Flammable liquid, UN1993, Ethanol, 3, II

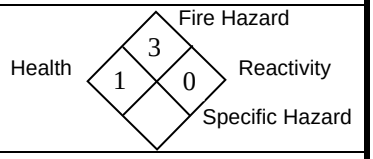
Section 15. Other Information

Label requirements

Hazardous Material Information System (U.S.A.)

Health	1
Fire Hazard	3
Reactivity	0
Personal Protection	

National Fire Protection Association (U.S.A.)



References

Other Special Considerations

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

BBC Biochemical MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Information

Common Name:	**F.S. Blueing Solution™**	**Code:**	**6530**
Supplier:	**BBC Biochemical**	**MSDS#:**	**6530**
Synonym:	**None**	**Validation Date:**	**3-4-09**
Trade Name:	**None**	**Print Date:**	**3-4-09**
Material Uses:	**Stains**	**Responsible Name:**	**Dr. James Biesecker**
Manufacturer:	**BBC Biochemical PO Box 1320 409 Eleanor Lane Mount Vernon, WA 98273 1-800-635-4477**	**In Case of Emergency:**	**1-800-424-9300 Chemtrec USA 1-202-483-7616 Chemtrec Intrl 1-800-635-4477**

Section 2. Composition and Information on Ingredients

Name	CAS#	% by Weight	Exposure Limits
1) Water 2) Lithium Carbonate	7732-18-5 554-13-2	Percent composition withheld as a trade secret.	Data no available.

Section 3. Hazards Identification

Physical State and Appearance	Colorless liquid
Emergency Overview	Not available.
Routes of Entry	Eye contact, inhalation, ingestion, skin contact.
Potential Acute Health Effects	
Eyes	May cause irritation with redness, pain, and possibly corneal damage.
Skin	May cause irritation with redness and pain.
Inhalation	May cause irritation of the mucous membranes with sore throat and coughing.
Ingestion	Irritant to the gastrointestinal system.
Potential Chronic Health Effects	
Medical Conditions Aggravated by Overexposure	Corneal disease, glaucoma, or chronic respiratory diseases.
Overexposure/ Signs/Symptoms	

Section 4. First Aid Measures

Eye Contact	Immediately flush eyes thoroughly with water for at least 15 minutes.
Skin Contact	Wash area thoroughly with copious amounts of water. Remove contaminated clothing and clean before wearing again.
Inhalation	Remove to fresh air, give artificial respiration if breathing has stopped.
Ingestion	Get immediate medical attention; if conscious, give water freely. Do not induce vomiting.
Notes to Physician	Not available.

Section 5. Fire Fighting Measures

Flammability of the Product	Not available.
Auto-ignition Temperature	Not available.
Flash Points	Not available.
Flammable Limits	Not available.
Products of Combustion	Not available.
Fire Hazards in Presence Of Various Substances	None indicated.
Explosion Hazards in	None indicated.

Presence of Various Substances	
Fire Fighting Media and Instructions	Wear self-contained breathing apparatus.
Protective Clothing (Fire)	
Special Remarks on Fire Hazards	
Special Remarks on Explosion Hazards	

Section 6. Accidental Release Measures

Small Spill and Leak	Evacuate the area of all unnecessary personnel. Wear suitable protective equipment listed under section VIII. Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards. Contain the release and eliminate it's source, if this can be done without risk. Take up and containerize for proper disposal as described under Waste Disposal Method. Comply with Federal, State, and local regulations on reporting releases.
Large Spill and Leak	Same as above.

Section 7, Handling and Storage

Handling	Avoid prolonged, or repeated skin contact. Do not get in eyes. Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be available.
Storage	Keep container closed.

Section 8. Exposure Controls / Personal Protection

Engineering Controls	
Personal Protection	
Eyes	Safety glasses with side shields should be worn at all times.
Body	Impervious clothing should be worn to prevent skin contact.
Respiratory	Any dust or mist respirator. If workplace exposure limit(s) of product or any component is exceeded, a NIOSH/MSHA approved air respirator is advised in absence of proper environmental control. Material should be handled or transferred in an approved fume hood or with adequate ventilation.
Hands	Rubber or equivalent gloves should be worn to prevent skin contact.
Feet	Data not available.
Personal Protection in Case of a Large Spill	Impervious clothing, rubber or equivalent gloves, safety glasses with side shields and respirator.

Product Name	**Exposure Limits**
1) Data not available.	
2)	
3)	

Consult Local authorities before acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Colorless liquid.	**Odor:**	None
Molecular Weight	Not applicable.	**Taste:**	Not available.
Molecular Formula	Not applicable.	**Color:**	Colorless.
pH (1%/Water)	Not applicable.		
Boiling/Condensation Point	100C.		
Melting/Freezing Point	Not applicable.		
Critical Temperature	Not applicable.		
Specific Gravity	Not applicable.		
Vapor Pressure	Not applicable.		
Vapor Density	Not applicable.		
Volatility	Not applicable.		
Odor Threshold	Not applicable.		
Evaporation Rate	Not applicable.		
VOC	Not available.		
Viscosity	Not available.		
Ionicity (in water)	Not available.		
Dispersion Properties	Not available.		
Solubility	Soluble in water.		
Physical Chemical Comments	Not available.		

Section 10. Stability and Reactivity

Stability and Reactivity	Stable.
Conditions of Instability	None.
Incompatibility with Various Substances	Acids, corrosive to metals and alloys.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Does not occur.

Section 11. Toxicological Information

Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	
Other Toxic Effects on Humans	
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on Other Toxic Effects on Humans	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BODS and COD	Not available.
Biodegradable/OEDC	Not available.
Mobility	Not available.
Toxicity of the Products of Biodegradation	Not available.
Special Remarks on The Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Information	Not available.
Waste Stream	Not available.

Consult your local or regional authorities. Always contact a permitted waste disposer (TSD) to assure compliance with all current local, state and federal regulations.

Section 14. Transport Information

DOT Classification	Not hazardous.
Marine Pollutant	Not available.
Hazardous Substances Reportable Quantity	Not available.
Special Provisions for Transport	Not applicable.
TDG Classification	Not controlled under TDG (Canada).
ADR/RID Classification	Not controlled under ADR (Europe).
IMO/IMDG Classification	Not controlled under IMDG.
ICAO/IATA Classification	Not controlled under IATA.

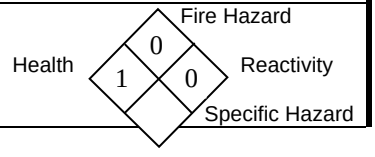
Section 15. Other Information

Label requirements

Hazardous Material Information System (U.S.A.)

Health	1
Fire Hazard	0
Reactivity	0

National Fire Protection Association (U.S.A.)



Personal Protection	
References	
Other Special Considerations	
.	

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

BBC Biochemical MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Information

Common Name:	**F.S. Eosin™**	**Code:**	**6540**
Supplier:	**BBC Biochemical**	**MSDS#:**	**6540**
Synonym:	**None**	**Validation Date:**	**3-4-09**
Trade Name:	**None**	**Print Date:**	**3-4-09**
Material Uses:	**None**	**Responsible Name:**	**Dr. B**
Manufacturer:	**BBC Biochemical PO Box 1320 409 Eleanor Lane Mount Vernon, WA 98273 1-800-635-4477**	**In Case of Emergency:**	**1-800-424-9300 Chemtrec USA 1-202-483-7616 Chemtrec Intrl 1-800-635-4477**

Section 2. Composition and Information on Ingredients

Name	CAS#	% by Weight	Exposure Limits
1) Water	1737-87-1	Percentage composition is withheld as a trade secret.	Data not available.
2) Denatured Ethanol Mixture			Data not available.
•Ethyl Alcohol	64-17-5		
•Methyl Alcohol	67-56-1		
•Isopropyl Alcohol	67-63-0		
3) Eosin Y	17372-87-1		Data not available.
4) Glacial Acetic Acid	64-19-7		Data not available.

Section 3. Hazards Identification

Physical State and Appearance	Fluorescent orange liquid, characteristic odor.
Emergency Overview	Not available.
Routes of Entry	Eye contact, inhalation, ingestion, skin contact.
Potential Acute Health Effects	
Eyes	Irritation.
Skin	Irritation.
Inhalation	May cause dizziness, headache, nausea, and narcosis.
Ingestion	May cause blindness, nausea, damage to gastrointestinal tract, liver, kidneys, and cardiovascular system.
Potential Chronic Health Effects	
Medical Conditions Aggravated by Overexposure	Kidney, liver, heart, and GI conditions.
Overexposure/ Signs/Symptoms	

Section 4. First Aid Measures

Eye Contact	Immediately flush thoroughly with water for at least 15 minutes.
Skin Contact	Wash area thoroughly with copious amounts of water. Remove contaminated clothing and clean before wearing again.
Inhalation	Remove to fresh air; give artificial respiration if breathing has stopped.
Ingestion	If conscious, drink water. Seek medical attention. Do not induce vomiting.
Notes to Physician	Not available.

Section 5. Fire Fighting Measures

Flammability of the Product	Flammable liquid.
Auto-ignition Temperature	Not available.
Flash Points	About 55 Degrees F.
Flammable Limits	Not available.

Products of Combustion	Not available.
Fire Hazards in Presence Of Various Substances	Heat.
Explosion Hazards in Presence of Various Substances	Vapor can travel distances to ignitions source and flash back.
Fire Fighting Media and Instructions	Dry chemical, carbon dioxide, alcohol foam. Use water spray to cool fire-exposed containers and disperse vapors. Fire fighters should use self-contained breathing apparatus and protective clothing.
Protective Clothing (Fire)	
Special Remarks on Fire Hazards	
Special Remarks on Explosion Hazards	

Section 6. Accidental Release Measures

Small Spill and Leak	Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate all sources of ignition and provide ventilation.
Large Spill and Leak	Same as above.

Section 7, Handling and Storage

Handling	Use adequate ventilation. Avoid repeated or prolonged skin contact or breathing of vapors. Do not breathe vapors. Do not get in eyes.
Storage	Store and use in areas away from heat, sparks, and open flame. Store in tightly closed containers in a cool, dry, well-ventilated, fire-resistant area. Store away from oxidizing agents.

Section 8. Exposure Controls / Personal Protection

Engineering Controls	
Personal Protection	
Eyes	Safety glasses with approved side shields should be worn at all times. Eyewash and safety shower should be available.
Body	Protective clothing to minimize skin contact.
Respiratory	Use NIOSH or MSHA approved respirators in absence of proper environmental control. Approved fume hood or other approved ventilation.
Hands	Neoprene, Nitrile or equivalent gloves.
Feet	Data not available.
Personal Protection in Case of a Large Spill	Safety glasses with side shields, protective clothing, respirator if necessary, neoprene, nitrile or equivalent gloves.

Product Name	**Exposure Limits**
1) Water	Data not available.
2) Denatured Ethanol Mixture	OSHA PEL 1000ppm TWA
3) Glacial Acetic Acid	OSHA PEL 10ppm TWA

Consult Local authorities before acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Fluorescent orange liquid, characteristic odor.	**Odor:**	Characteristic odor.
Molecular Weight	Not applicable.	**Taste:**	Not available.
Molecular Formula	Not applicable.	**Color:**	Fluorescent orange.
pH (1%/Water)	Not applicable.		
Boiling/Condensation Point	173 Degrees F.		
Melting/Freezing Point	Not applicable.		
Critical Temperature	Not applicable.		
Specific Gravity	Not applicable.		
Vapor Pressure	Not applicable.		
Vapor Density	Not applicable.		
Volatility	Not applicable.		
Odor Threshold	Not applicable.		
Evaporation Rate	Not applicable.		
VOC	Not available.		
Viscosity	Not available.		
Ionicity (in water)	Not available.		
Dispersion Properties	Not available.		
Solubility	Complete in water.		
Physical Chemical Comments	Not available.		

Section 10. Stability and Reactivity

Stability and Reactivity	Stable.
Conditions of Instability	Heat.
Incompatibility with Various Substances	Oxidizers.
Hazardous Decomposition Products	Bromine compounds, Co_x, Na_2O, strong oxidizing agent, such as nitrates, perchlorates, peroxides, chromic, nitric and sulfuric acid..
Hazardous Polymerization	Does not occur.

Section 11. Toxicological Information

Toxicity to Animals	Glacial Acetic Acid CAS 64-19-7 Oral rat LD50: 3310 mg/kg; skin rabbit LD50: 1.06 g/kg; inhalation mouse LC50: 5620ppm/1-hr Ethyl Alcohol (denatured) CAS 64-17-5 oral rat LD50: 7060 mg/kg; inhalation rat LC50: 20,000 ppm/10H; Irritation data, eye, rabbit: 500 mg/24H moderate; Investigated as a tumorigen, mutagen, reproductive effector. Methyl alcohol: oral rat LD50: 5628 mg/kg; inhalation rat LC50: 64000 ppm/4H; skin rabbit LD50: 15800 mg/kg; Irritation data,skin,rabbit: 20 mg/24H, Moderate; Investigated as a tumorigen, mutagen, reproductive effector. Isopropyl alcohol: oral rat LD50: 5045 mg/kg; skin rabbit LD50: 12.8 gm/kg; inhalation, rat: 16,000 ppm 8 hr.
Chronic Effects on Humans	
Other Toxic Effects on Humans	
Special Remarks on Toxicity to Animals	Tests on laboratory animals indicate Eosin Y may produce adverse mutagenic effects and cause tumors. Cited in Registry of Toxic Effects of Substances (RTECS).
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on Other Toxic Effects on Humans	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BODS and COD	Not available.
Biodegradable/OEDC	Not available.
Mobility	Not available.
Toxicity of the Products of Biodegradation	Not available.
Special Remarks on The Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Information	Disposal by Incineration or fuel blending. Contact your local licensed waste disposal company. Follow Federal, State, and local regulations.
Waste Stream	Not available.
Consult your local or regional authorities.	

Section 14. Transport Information

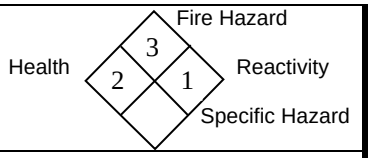
DOT Classification	UN1993, Flamamble Liquids, n.o.s., (Ethanol), 3, II
Marine Pollutant	Not available.
Hazardous Substances Reportable Quantity	Not available.
Special Provisions for Transport	Not applicable.
TDG Classification	UN1993, Flamamble Liquids, n.o.s., (Ethanol), 3, II
ADR/RID Classification	ADR (Europe) Information not available.
IMO/IMDG Classification	IMDG Information not available.
ICAO/IATA Classification	See IATA Regulations, UN1993, Flamamble Liquids, n.o.s., (Ethanol), 3, II

Section 15. Other Information

Label requirements

Hazardous Material Information System (U.S.A.)		
	Health	2
	Fire Hazard	3
	Reactivity	1
	Personal Protection	

National Fire Protection Association (U.S.A.)



References

Other Special Considerations

.

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

BBC Biochemical MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Information

Common Name:	**F.S. Fix™**	**Code:**	**6500**
Supplier:	**BBC Biochemical**	**MSDS#:**	**6500**
Synonym:	**None.**	**Validation Date:**	**3-4-09**
Trade Name:	**None.**	**Print Date:**	**3-4-09**
Material Uses:	**Fixation of Tissue.**	**Responsible Name:**	**Dr. B**
Manufacturer:	**BBC Biochemical PO Box 1320 409 Eleanor Lane Mount Vernon, WA 98273 1-800-635-4477**	**In Case of Emergency:**	**1-800-424-9300 Chemtrec USA 1-202-483-7616 Chemtrec Intrl 1-800-635-4477**

Section 2. Composition and Information on Ingredients

Name	CAS#	OSHA PEL/TWA	OSHA STEL
1) Water	1737-87-1		
2) Denatured Ethanol Mixture			
Ethyl Alcohol	64-17-5	1000 ppm	None established
Methyl Alcohol	67-56-1	200 ppm	250 ppm
Isopropyl Alcohol	67-63-0	400 ppm	500 ppm
3) Formaldehyde 37%	50-00-0	.75 ppm	2 ppm
4) Glacial Acetic Acid	64-19-7	10 ppm	15 ppm
5) Selected Buffers	N/A	N/A	N/A

Section 3. Hazards Identification

Physical State and Appearance	Clear, blue liquid with a pungent odor.
Emergency Overview	Not available.
Routes of Entry	Eye contact, inhalation, ingestion, skin contact.
Potential Acute Health Effects	
Eyes	Irritation, may cause permanent damage.
Skin	Irritation, sensitizer.
Inhalation	Irritation to nose, throat and respiratory system.
Ingestion	May cause allergic reaction or blindness.
Potential Chronic Health Effects	Formaldehyde is a strong sensitizer. It has the potential to cause cancer in humans. Various animal experiments have shown it to cause cancer in rats.
Medical Conditions Aggravated by Overexposure	Respiratory conditions.
Overexposure/ Signs/Symptoms	

Section 4. First Aid Measures

Eye Contact	Immediately flush thoroughly with water for at least 15 minutes.
Skin Contact	Wash thoroughly with water. Remove contaminated clothing at once (launder before reuse); discard contaminated shoes.
Inhalation	Remove to fresh air; give artificial respiration if breathing has stopped.
Ingestion	If conscious, dilute, inactivate, or absorb the ingested formaldehyde by giving milk, activated charcoal, or water.
Notes to Physician	GET IMMEDIATE MEDICAL ASSISTANCE IN ALL CASES OF OVEREXPOSURE.

Section 5. Fire Fighting Measures

Flammability of the	Not available.

Product	
Auto-ignition Temperature	Not available.
Flash Points	About 55° F
Flammable Limits	LEL (%) 3.3; UEL (%) 19.0
Products of Combustion	Not available.
Fire Hazards in Presence Of Various Substances	Not available.
Explosion Hazards in Presence of Various Substances	Not available.
Fire Fighting Media and Instructions	Dry chemical, carbon dioxide, "alcohol" foam. Use water spray to cool fire-exposed containers and disperse vapors.
Protective Clothing (Fire)	Fire fighters should use self-contained breathing apparatus and protective clothing.
Special Remarks on Fire Hazards	Vapors can travel distances to ignition source and flash back.
Special Remarks on Explosion Hazards	

Section 6. Accidental Release Measures

Small Spill and Leak	Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate all sources of ignition until the area is determined to be free from explosion or fire hazards. Contain the release and eliminate it's source, if this can be done without risk. Take up and containerize for proper disposal. Comply with Federal, State, and local regulations on reporting releases.
Large Spill and Leak	Same as above.

Section 7, Handling and Storage

Handling	Do not breathe vapor or mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not take internally. Have eye wash and safety equipment available.
Storage	Store and use in areas away from heat, sparks, and open flame. Store in tightly closed containers.

Section 8. Exposure Controls / Personal Protection

Engineering Controls	
Personal Protection	
Eyes	Safety glasses with approved side shields should be worn at all times. Eye wash station should be available.
Body	Protective clothing should be worn to minimize skin contact. Safety shower should be available.
Respiratory	If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), a NIOSH or MSHA approved air supplied respirator is advised in absence of proper environmental control. Engineering and/or administrative controls should be implemented to reduce exposure. Material must be handled or transferred in an approved fume hood or with adequate ventilation.
Hands	Neoprene, Nitrile or equivalent gloves should be worn.
Feet	Impervious footwear should be worn to prevent skin contact.
Personal Protection in Case of a Large Spill	See above.

Product Name	**Exposure Limits**
1)Methyl Alcohol CAS 67-56-1	OSHA PEL 200ppm TWA
2)Isopropyl Alcohol CAS 67-63-0	OSHA PEL 400ppm TWA
3)Ethyl Alcohol CAS 64-17-5	OSHA PEL 1000ppm TWA
4)Formaldehyde 37% CAS 50-00-0	OSHA PEL 0.75ppm TWA
5)Glacial Acetic Acid CAS 64-19-7	OSHA PEL 10ppm TWA

Consult Local authorities before acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Clear blue/green liquid.	**Odor:**	Pungent.
Molecular Weight	Not applicable.	**Taste:**	Not available.
Molecular Formula	Not applicable.	**Color:**	Clear blue/green.
pH (1%/Water)	Not applicable.		
Boiling/Condensation Point	Not applicable.		
Melting/Freezing Point	Not applicable.		
Critical Temperature	Not applicable.		
Specific Gravity	Not applicable.		
Vapor Pressure	Not applicable.		
Vapor Density	Not applicable.		

Volatility	Not applicable.
Odor Threshold	Not applicable.
Evaporation Rate	Not applicable.
VOC	Not available.
Viscosity	Not available.
Ionicity (in water)	Not available.
Dispersion Properties	Not available.
Solubility	Soluble in water.
Physical Chemical Comments	Not available.

Section 10. Stability and Reactivity

Stability and Reactivity	Stable.
Conditions of Instability	Heat, sparks, open flame.
Incompatibility with Various Substances	Not available.
Hazardous Decomposition Products	CO_x, thermal decomposition produces toxic fumes.
Hazardous Polymerization	Data not available.

Section 11. Toxicological Information

Toxicity to Animals

Formaldehyde 37% CAS 50-00-0
LD50 (orl-mus): 42 mg/kg.

Ethyl Alcohol CAS 64-17-5
oral rat LD50: 7060 mg/kg; inhalation rat LC50: 20,000 ppm/10H; Irritation data, eye, rabbit: 500 mg/24H moderate; Investigated as a tumorigen, mutagen, reproductive effector. Methyl alcohol: oral rat LD50: 5628 mg/kg; inhalation rat LC50: 64000 ppm/4H; skin rabbit LD50: 15800 mg/kg; Irritation data,skin,rabbit: 20 mg/24H, Moderate; Investigated as a tumorigen, mutagen, reproductive effector. Isopropyl alcohol: oral rat LD50: 5045 mg/kg; skin rabbit LD50: 12.8 gm/kg; inhalation, rat: 16,000 ppm 8 hr.

Isopropyl Alcohol CAS 67-63-0
Oral rat LD50: 5045 mg/kg; skin rabbit LD50: 12.8 gm/kg; inhalation rat LC50: 16,000 ppm/8-hour;

Methyl Alcohol CAS 67-56-1
Oral rat LD50: 5628 mg/kg; inhalation rat LC50: 64000 ppm/4H; skin rabbit LD50: 15800 mg/kg; Irritation data-standard Draize test: skin, rabbit: 20mg/24 hr. Moderate; eye, rabbit: 100 mg/24 hr.

Glacial Acetic Acid CAS 64-19-7
Oral rat LD50: 3310 mg/kg; skin rabbit LD50: 1.06 g/kg; inhalation mouse LC50: 5620ppm/1-hr

Chronic Effects on Humans

This product contains the following toxic chemical subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

CAS #	Chemical Name	Percent by Weight
67-56-1	Methanol	1.0
50-00-0	Formaldehyde	0.1
64-19-7	Glacial Acetic Acid	<1%

Other Toxic Effects on Humans

Special Remarks on Toxicity to Animals	Tests on laboratory animals indicate formaldehyde may cause tumors and may produce adverse mutagenic and reproductive effects.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on Other Toxic Effects on Humans	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BODS and COD	Not available.
Biodegradable/OEDC	Not available.
Mobility	Not available.
Toxicity of the Products of	Not available.

Biodegradation	
Special Remarks on The Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Information	Not available.
Waste Stream	Not available.
Consult your local or regional authorities.	

Section 14. Transport Information

DOT Classification	UN1993, Flammable Liquids, n.o.s., (Ethanol), 3, II
Marine Pollutant	Not available.
Hazardous Substances Reportable Quantity	Not available.
Special Provisions for Transport	Not applicable.
TDG Classification	UN1993, Flammable Liquids, n.o.s., (Ethanol), 3, II
ADR/RID Classification	ADR (Europe) Information not available.
IMO/IMDG Classification	IMDG Information not available.
ICAO/IATA Classification	See IATA Regulations, UN1993, Flammable Liquids, n.o.s., (Ethanol), 3, II

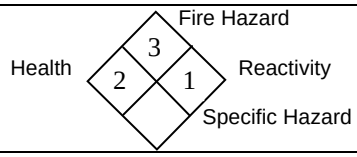
Section 15. Other Information

Label requirements

Hazardous Material Information System (U.S.A.)

Health	2
Fire Hazard	3
Reactivity	1
Personal Protection	

National Fire Protection Association (U.S.A.)



References

Other Special Considerations

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

BBC Biochemical MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Information

Common Name:	**F.S. Hematoxylin™**	**Code:**	**3530, 3540, 3550, 3555**
Supplier:	**BBC Biochemical**	**MSDS#:**	**3530**
Synonym:	**Not available**	**Validation Date:**	**9-1-07**
Trade Name:	**Not available**	**Print Date:**	**9-1-07**
Material Uses:	**Not available**	**Responsible Name:**	**Dr. B**
Manufacturer:	**BBC Biochemical PO Box 1320 409 Eleanor Lane Mount Vernon, WA 98273 1-800-635-4477**	**In Case of Emergency:**	**1-800-424-9300 Chemtrec USA 1-202-483-7616 Chemtrec Intrl 1-800-635-4477**

Section 2. Composition and Information on Ingredients

Name	CAS#	% by Weight	Exposure Limits
1) Water	7732-18-5	Percentage composition is	Data not available.
2) Hematoxylin	517-28-2	Withheld as a trade secret.	Data not available.
3) Aluminum Ammonium Sulfate	7784-26-1		Data not available.
4) Sodium Iodate	7681-55-2		Data not available.
5) Aluminum Sulfate	10043-01-3		Data not available.
6) Ethylene Glycol	107-21-1		Data not available.
7) Glacial Acetic Acid	64-19-7		OSHA PEL 10ppm TWA

Section 3. Hazards Identification

Physical State and Appearance	Deep purple liquid.
Emergency Overview	Not available.
Routes of Entry	Eye contact, inhalation, ingestion, skin contact.
Potential Acute Health Effects	
Eyes	Irritation, may cause permanent damage.
Skin	Irritation.
Inhalation	Irritation to nose, throat, mucous membranes, and respiratory system.
Ingestion	May be harmful if swallowed.
Potential Chronic Health Effects	
Medical Conditions Aggravated by Overexposure	Data not available.
Overexposure/ Signs/Symptoms	

Section 4. First Aid Measures

Eye Contact	Immediately flush with water for at least 15 minutes.
Skin Contact	Wash area thoroughly with copious amounts of water. Remove contaminated clothing and clean before wearing again.
Inhalation	Remove to fresh air; give artificial respiration if breathing has stopped.
Ingestion	If conscious, give water freely, get immediate medical attention.
Notes to Physician	Not available.

Section 5. Fire Fighting Measures

Flammability of the	Not flammable.

Product	
Auto-ignition Temperature	Not available.
Flash Points	Not applicable.
Flammable Limits	LEL (%) Not applicable; UEL (%) Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence Of Various Substances	Heat, sparks, open flame.
Explosion Hazards in Presence of Various Substances	Not available.
Fire Fighting Media and Instructions	Dry chemical, carbon dioxide, "Alcohol" foam; water spray to cool fire-exposed and disperse vapors. Wear self-contained breathing apparatus and protective clothing.
Protective Clothing (Fire)	
Special Remarks on Fire Hazards	Thermal decomposition produces toxic fumes.
Special Remarks on Explosion Hazards	

Section 6. Accidental Release Measures

Small Spill and Leak	Evacuate the area of all unnecessary personnel. Wear suitable protective equipment listed under section VIII. Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards. Contain the release and eliminate it's source, if this can be done without risk. Take up and containerize for proper disposal as described under Waste Disposal Method. Comply with Federal, State, and local regulations on reporting releases.
Large Spill and Leak	Same as above.

Section 7, Handling and Storage

Handling	Do not breathe vapor or mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not take internally. Have eye wash and safety equipment available.
Storage	Keep container tightly closed. Store away from heat, sparks, open flame.

Section 8. Exposure Controls / Personal Protection

Engineering Controls	
Personal Protection	
Eyes	Safety glasses with side shields must be worn at all times.
Body	Impervious clothing must be worn to prevent skin contact.
Respiratory	If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. Engineering and/or administrative controls should be implemented to reduce exposure.
Hands	Neoprene, nitrile or equivalent gloves should be worn.
Feet	Data not available.
Personal Protection in Case of a Large Spill	Safety glasses with side shields, impervious clothing, respirator if necessary, neoprene, nitrile or equivalent gloves.

Product Name	**Exposure Limits**
1) Water	Data not available.
2) Hematoxylin	Data not available.
3) Aluminum Ammonium Sulfate	Data not available.
4)Glacial Acetic Acid	OSHA PEL 10ppm TWA

Consult Local authorities before acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Deep purple liquid.	**Odor:**	Not available.
Molecular Weight	Not applicable.	**Taste:**	Not available.
Molecular Formula	Not applicable.	**Color:**	Deep purple.
pH (1%/Water)	Not applicable.		
Boiling/Condensation Point	Not applicable.		
Melting/Freezing Point	Not applicable.		
Critical Temperature	Not applicable.		
Specific Gravity	Not applicable.		
Vapor Pressure	Not applicable.		
Vapor Density	Not applicable.		
Volatility	Not applicable.		

Odor Threshold	Not applicable.
Evaporation Rate	Not applicable.
VOC	Not available.
Viscosity	Not available.
Ionicity (in water)	Not available.
Dispersion Properties	Not available.
Solubility	Soluble in water.
Physical Chemical Comments	Not available.

Section 10. Stability and Reactivity

Stability and Reactivity	Stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Oxidizers.
Hazardous Decomposition Products	Ammonium, Co_x,SO_x
Hazardous Polymerization	Not available.

Section 11. Toxicological Information

Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	
Other Toxic Effects on Humans	
Special Remarks on Toxicity to Animals	Tests on laboratory animals indicate some material may produce adverse mutagenic and reproductive effects. Some material may cause tumors. Cited in Registry of Toxic Effects of Substances (RTECS).
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on Other Toxic Effects on Humans	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BODS and COD	Not available.
Biodegradable/OEDC	Not available.
Mobility	Not available.
Toxicity of the Products of Biodegradation	Not available.
Special Remarks on The Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Information	Not available.
Waste Stream	Not available.
Consult your local or regional authorities.	

Section 14. Transport Information

DOT Classification	Not hazardous.
Marine Pollutant	Not available.
Hazardous Substances Reportable Quantity	Not available.
Special Provisions for Transport	Not applicable.
TDG Classification	Not controlled under TDG (Canada).
ADR/RID Classification	Not controlled under ADR (Europe).
IMO/IMDG Classification	Not controlled under IMDG.
ICAO/IATA Classification	Not controlled under IATA.

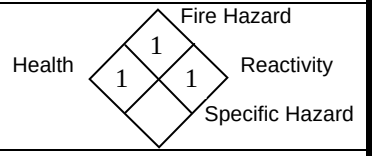
Section 15. Other Information

Label requirements

Hazardous Material Information System (U.S.A.)

Health	1
Fire Hazard	1
Reactivity	1
Personal Protection	

National Fire Protection Association (U.S.A.)



References

Other Special Considerations

.

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.