

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Safranin, Aqueous-Alcoholic, Counterstain for Gram Staining

Product Number: 6680

Other Identifying Product Numbers: 6680-1, 6680-16, 6680-32, 6680-4

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company: Ricca Chemical Company

Address: 448 West Fork Drive

Arlington, TX 76012 USA

Telephone: 888-467-4222

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statements:	Precautionary Statements:
Reproductive Toxicity	Category 1	H360	P201, P202, P280, P308+P313, P405, P501

2.2. GHS Label Elements

Pictograms:



Safety Data Sheet

Signal Word: Danger

Hazard Statements:

Hazard Number	Hazard Statement
H360	May damage fertility or the unborn child.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves and eye protection.
P308+P313	IF exposed or concerned: Get medical attention.
P405	Store locked up.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Water	H ₂ O	18.01 g/mol	7732-18-5	90.84
Ethyl Alcohol	CH ₃ CH ₂ OH	46.06 g/mol	64-17-5	8.35
Methyl Alcohol	CH ₃ OH	32.04 g/mol	67-56-1	0.42
Safranin O	C ₂₀ H ₁₉ ClN ₄	350.84 g/mol	477-73-6	0.39

SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva.

Inhalation: Not expected to require first aid. If necessary, remove to fresh air.

Skin Contact: May result in drying and cracking, which can lead to secondary infections and dermatitis.

Ingestion: Dilute immediately with water or milk. Induce vomiting. Call a physician.

Safety Data Sheet

4.2. Most Important Symptoms and Effects, Acute and Delayed

May damage fertility or the unborn child. CAUTION! May be harmful if swallowed. If ingested, give large quantity of water or milk and induce vomiting. Call a physician. Wash areas of contact with plenty of water. For eyes, get medical attention. EYE CONTACT: May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva. SKIN CONTACT: May result in drying and cracking, which can lead to secondary infections and dermatitis.

4.3. Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops. Dilute immediately with water or milk. Induce vomiting. Call a physician.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard.

5.3. Special Protective Equipment for Firefighters

Use protective clothing and NIOSH-approved breathing equipment appropriate for the surrounding fire.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Remove all sources of ignition. Contain spill. Do not flush to sewer. Absorb with suitable inert material (vermiculite, dry sand, etc) and place in a chemical waste container for proper disposal in an approved waste disposal facility. Ventilate area of spill. Have extinguishing agent available in case of fire. Use non-sparking tools and equipment. Dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Empty containers may be hazardous since they retain product residues. Store at room temperature.

Safety Data Sheet

SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Ethyl Alcohol (64-17-5)	TWA	USA	"1000 ppm TWA; 1900 mg/m ³ TWA" As Ethyl alcohol [64-17-5]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ethyl Alcohol (64-17-5)	TLV-STEL	USA	"1000 ppm STEL" As Ethanol [64-17-5]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Ethyl Alcohol (64-17-5)	TWA	USA	1000 ppm TWA; 1900 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ethyl Alcohol (64-17-5)	TLV-STEL	USA	1000 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Ethyl Alcohol (64-17-5)	TLV-STEL	USA	"1000 ppm STEL" As Ethanol [64-17-5]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Ethyl Alcohol (64-17-5)	TWA	USA	"1000 ppm TWA; 1900 mg/m ³ TWA" As Ethyl alcohol [64-17-5]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ethyl Alcohol (64-17-5)	TLV-STEL	USA	"1000 ppm STEL" As Ethanol [64-17-5]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Ethyl Alcohol (64-17-5)	TWA	USA	"1000 ppm TWA; 1900 mg/m ³ TWA" As Ethyl alcohol [64-17-5]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ethyl Alcohol (64-17-5)	TLV-STEL	USA	"1000 ppm STEL" As Ethanol [64-17-5]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Ethyl Alcohol (64-17-5)	TWA	USA	"1000 ppm TWA; 1900 mg/m ³ TWA" As Ethyl alcohol [64-17-5]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Methyl Alcohol (67-56-1)	TLV-STEL	USA	"250 ppm STEL" As Methanol [67-56-1]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Methyl Alcohol (67-56-1)	TWA	USA	"200 ppm TWA; 260 mg/m ³ TWA" As Methyl alcohol [67-56-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Methyl Alcohol (67-56-1)	TLV-TWA	USA	"200 ppm TWA" As Methanol [67-56-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Methyl Alcohol (67-56-1)	TWA	USA	"200 ppm TWA; 260 mg/m ³ TWA" As Methyl alcohol [67-56-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

Safety Data Sheet

Methyl Alcohol (67-56-1)	TLV-TWA	USA	"200 ppm TWA" As Methanol [67-56-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Methyl Alcohol (67-56-1)	TLV-STEL	USA	"250 ppm STEL" As Methanol [67-56-1]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Methyl Alcohol (67-56-1)	TWA	USA	200 ppm TWA; 260 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Methyl Alcohol (67-56-1)	TLV-TWA	USA	200 ppm TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Methyl Alcohol (67-56-1)	TLV-STEL	USA	250 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Methyl Alcohol (67-56-1)	TLV-TWA	USA	"200 ppm TWA" As Methanol [67-56-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Methyl Alcohol (67-56-1)	TLV-STEL	USA	"250 ppm STEL" As Methanol [67-56-1]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Methyl Alcohol (67-56-1)	TWA	USA	"200 ppm TWA; 260 mg/m ³ TWA" As Methyl alcohol [67-56-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

8.2. Exposure Controls

Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit.

Respiratory Protection: Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn.

Skin Protection: Wear protective gloves and eye protection. Chemical resistant gloves.

Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.

8.3. Personal Protective Equipment

Wear protective gloves and eye protection. Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn. Chemical resistant gloves. Safety glasses or goggles.



Safety Data Sheet

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Dark red liquid

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: Data not available.

Melting/Freezing Point: Approximately 0°C

Initial Boiling Point/Range: Approximately 100°C - Approximately 100°C

Flash Point: Data not available.

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: Data not available.

Relative Density: 0.9

Solubility: Miscible

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Oxidizers, platinum, Sodium, Potassium Dioxide, Bromine Pentafluoride, Acetyl Bromide, Acetyl Chloride, heat, sparks, open flame.

10.4. Hazardous Decomposition Products

Will not occur.

Safety Data Sheet

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

LD50, Oral, Rat: (Methanol) 5628 mg/kg, details of toxic effects not reported other than lethal dose value; (Ethanol) 7060 mg/kg, respiration changes noted. LD50, Oral, Mouse: 1600 mg/kg (Safranin O), details of toxic effects not reported other than lethal dose value.

Skin Corrosion and Irritation:

Not applicable.

Serious Eye Damage and Irritation:

Not applicable.

Respiratory Sensitization:

Not applicable.

Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

Not applicable.

Carcinogenicity:

Not applicable.

Reproductive Toxicity:

May damage fertility or the unborn child. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Specific Target Organ Toxicity from Single Exposure:

Not applicable.

Specific Target Organ Toxicity from Repeated Exposure:

Not applicable.

Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.



Safety Data Sheet

SECTION 12: Ecological Information

12.1. Ecotoxicity

Not applicable.

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

SECTION 14: Transportation Information

14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.



Safety Data Sheet

14.2. Transportation by Air - International Air Transport Association (IATA)

Not regulated according to IATA Dangerous Goods Regulations.

14.3 Transportation of Dangerous Goods (TDG, Canada)

Not regulated according to TDG Regulations.

SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Not listed.

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Methyl Alcohol (CAS # 67-56-1): "5000 lb final RQ; 2270 kg final RQ" As Methanol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): 5000 lb final RQ; 2270 kg final RQ

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Methyl Alcohol (CAS # 67-56-1): "1.0 % de minimis concentration" As Methanol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): 1.0 % de minimis concentration

Safety Data Sheet

15.5. Massachusetts Right-to-Know Substance List

Ethyl Alcohol (CAS # 64-17-5): "Teratogen" As Ethyl alcohol [64-17-5]

Ethyl Alcohol (CAS # 64-17-5): Teratogen

Methyl Alcohol (CAS # 67-56-1): "Present" As Methanol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): Present

15.6. Pennsylvania Right-to-Know Hazardous Substances

Ethyl Alcohol (CAS # 64-17-5): "Present" As Denatured alcohols [RR-00113-8]

Ethyl Alcohol (CAS # 64-17-5): "Present" As Ethanol [64-17-5]

Ethyl Alcohol (CAS # 64-17-5): Present

Methyl Alcohol (CAS # 67-56-1): "Environmental hazard" As Methanol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): "Present" As Denatured alcohols [RR-00113-8]

Methyl Alcohol (CAS # 67-56-1): "Present" As Methanol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): Environmental hazard

Methyl Alcohol (CAS # 67-56-1): Present

Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]

Water (CAS # 7732-18-5): Present

15.7. New Jersey Worker and Community Right-to-Know Components

Ethyl Alcohol (CAS # 64-17-5): "carcinogen; flammable - third degree; mutagen; teratogen" As Ethyl alcohol [64-17-5]

Ethyl Alcohol (CAS # 64-17-5): "sn 0844" As Ethyl alcohol [64-17-5]

Ethyl Alcohol (CAS # 64-17-5): carcinogen; flammable - third degree; mutagen; teratogen

Ethyl Alcohol (CAS # 64-17-5): sn 0844

Methyl Alcohol (CAS # 67-56-1): "flammable - third degree; teratogen" As Methyl alcohol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): "SN 1222 500 lb TPQ" As Methanol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): "sn 1222" As Methyl alcohol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): flammable - third degree; teratogen

Methyl Alcohol (CAS # 67-56-1): sn 1222

Methyl Alcohol (CAS # 67-56-1): SN 1222 500 lb TPQ

15.8. California Proposition 65

Ethyl Alcohol (CAS # 64-17-5): "carcinogen, 7/1/1988 (when associated with alcohol abuse); carcinogen, 4/29/2011" As Alcoholic beverages [RR-01961-4]

Ethyl Alcohol (CAS # 64-17-5): "developmental toxicity, 10/1/1987 (listed under Ethyl alcohol in alcoholic beverages)" As Alcoholic beverages [RR-01961-4]

Ethyl Alcohol (CAS # 64-17-5): carcinogen, 7/1/1988 (when associated with alcohol abuse); carcinogen, 4/29/2011

Ethyl Alcohol (CAS # 64-17-5): developmental toxicity, 10/1/1987 (listed under Ethyl alcohol in alcoholic beverages)

Methyl Alcohol (CAS # 67-56-1): "developmental toxicity, 3/16/2012" As Methanol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): developmental toxicity, 3/16/2012

Safety Data Sheet

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Safranin O (CAS # 477-73-6): "Present" As Phenazinium, 3,7-diamino-2,8-dimethyl-5-phenyl-, chloride [477-73-6] (DSL)
Safranin O (CAS # 477-73-6): Present (DSL)
Ethyl Alcohol (CAS # 64-17-5): "Present" As Alcohols, C1-3 [68475-56-9] (NDSL)
Ethyl Alcohol (CAS # 64-17-5): "Present" As Ethyl alcohol [64-17-5] (DSL)
Ethyl Alcohol (CAS # 64-17-5): Present (DSL)
Ethyl Alcohol (CAS # 64-17-5): Present (NDSL)
Methyl Alcohol (CAS # 67-56-1): "Present" As Alcohols, C1-3 [68475-56-9] (NDSL)
Methyl Alcohol (CAS # 67-56-1): "Present" As Methyl alcohol [67-56-1] (DSL)
Methyl Alcohol (CAS # 67-56-1): Present (DSL)
Methyl Alcohol (CAS # 67-56-1): Present (NDSL)
Water (CAS # 7732-18-5): "Present" As Water [7732-18-5] (DSL)
Water (CAS # 7732-18-5): Present (DSL)

15.10. United States of America Toxic Substances Control Act (TSCA) List

All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.

Safranin O (CAS # 477-73-6): "Present (ACTIVE)" As Phenazinium, 3,7-diamino-2,8-dimethyl-5-phenyl-, chloride (1:1) [477-73-6]
Safranin O (CAS # 477-73-6): Present (ACTIVE)
Ethyl Alcohol (CAS # 64-17-5): "Present (ACTIVE)" As Ethanol [64-17-5]
Ethyl Alcohol (CAS # 64-17-5): Present (ACTIVE)
Methyl Alcohol (CAS # 67-56-1): "Present (ACTIVE)" As Methanol [67-56-1]
Methyl Alcohol (CAS # 67-56-1): Present (ACTIVE)
Water (CAS # 7732-18-5): "Present (ACTIVE)" As Water [7732-18-5]
Water (CAS # 7732-18-5): Present (ACTIVE)

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Safranin O (CAS # 477-73-6): "207-518-8" As 3,7-Diamino-2,8-dimethyl-5-phenylphenazinium chloride [477-73-6]
Safranin O (CAS # 477-73-6): 207-518-8
Ethyl Alcohol (CAS # 64-17-5): "200-578-6" As Ethanol [64-17-5]
Ethyl Alcohol (CAS # 64-17-5): 200-578-6
Ethyl Alcohol (CAS # 64-17-5): 270-649-4
Methyl Alcohol (CAS # 67-56-1): "200-659-6" As Methanol [67-56-1]
Methyl Alcohol (CAS # 67-56-1): 200-659-6
Methyl Alcohol (CAS # 67-56-1): 270-649-4
Water (CAS # 7732-18-5): "231-791-2" As Water [7732-18-5]
Water (CAS # 7732-18-5): 231-791-2

Safety Data Sheet

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

May damage fertility or the unborn child.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection.

IF exposed or concerned: Get medical attention.

Store locked up.

Dispose of contents in accordance with local, state, federal and international regulations.

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

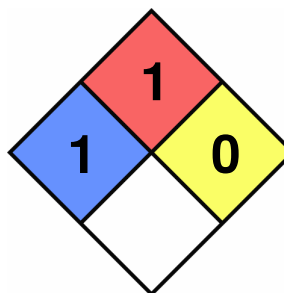
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.

Biohazardous Infectious Materials Hazard Class: Not Applicable.

16.3. National Fire Protection Association (NFPA) Rating

Health: 1
Flammability: 1
Reactivity: 0
Special Hazard:



16.4. Document Revision

Last Revision Date: 2025-01-30

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.