



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Benedict's Reagent, Qualitative, for detection of reducing sugars

Product Number 930

Other Identifying Product Numbers 930-1, 930-16, 930-32, 930-4, 930-5

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 412 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



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

Hazard Class	Category	Hazard Statements	Precautionary Statements
Serious Eye Damage / Eye Irritation	Category 2	H319	P264,P280,P305+P351+P338, P337+P313
Hazardous to the Aquatic Environment, Short-term (Acute)	Acute 2	H401	P273,P501
Hazardous to the Aquatic Environment, Long-term (Chronic)	Chronic 3	H412	P273,P501

2.2. GHS Label Elements

Pictograms:



Signal Word: **Warning**

Hazard Statements:

NOTE: Hazard statements may be combined on labels to improve clarity and readability.

Hazard Number	Hazard Statement
H319	Causes serious eye irritation
H401	Toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

Precautionary Statements:

NOTE: Precautionary statements may be combined or consolidated on labels to improve clarity and readability.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

Prevention

Precautionary Number	Precautionary Statement
P264	Wash hands, arms, and face thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.

Response

Precautionary Number	Precautionary Statement
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice or attention.

Disposal

Precautionary Number	Precautionary Statement
P501	Dispose of contents/container to suitable waste stream in accordance with local, state, federal, and international regulations.

2.3. Hazards not Otherwise Classified

No other hazards identified.

2.4. Ingredients of Unknown Acute Toxicity

15.7 percent of this mixture consists of ingredient(s) of unknown acute oral and dermal toxicity. 17.3 percent of this mixture consists of ingredient(s) of unknown acute inhalation toxicity.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Mixture

Chemical Name (IUPAC)	Common Name and Synonyms	CAS Number	Weight%
water	Water	7732-18-5	73.61
trisodium 2-hydroxypropane-1,2,3-tricarboxylate dihydrate	Sodium Citrate Dihydrate	6132-04-3	15.73
disodium carbonate	Sodium Carbonate; Carbonic acid, disodium salt; Soda ash	497-19-8	9.09
copper sulfate pentahydrate	Copper Sulfate Pentahydrate; Sulfuric acid, copper(2+) salt, pentahydrate	7758-99-8	1.57

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 4: First-Aid Measures

4.1. Description of Necessary Measures

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation, redness, pain, and tearing.

Ingestion: Dilute with water or milk. Call a physician if necessary.

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

Skin Contact: May cause irritation, redness, and pain.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes serious eye irritation. Avoid ingestion or contact with skin, eyes, or clothing. May cause irritation upon contact. If ingested, dilute with water or milk and call a physician. Wash areas of contact with plenty of water for 15 minutes. For eyes, get medical attention. EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause irritation, redness, and pain.

4.3. Immediate 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. Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops. Dilute with water or milk. Call a physician if necessary.

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 in a Fire

Not considered to be a fire or explosion hazard.

5.3. Special Protective Equipment and Precautions for Firefighters

Use protective clothing and 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

Do not flush to sewer. Absorb with suitable material. Containerize for disposal with a hazardous waste disposal facility. Dispose of in accordance with local regulations.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

SECTION 8: Exposure Controls / Personal Protection

8.1. Exposure Limits

U.S. OSHA - Permissible Exposure Limits (PEL) - Time Weighted Averages (TWA)

No limits found.

U.S. OSHA - Permissible Exposure Limits (PEL) - Ceiling Limits

No limits found.

U.S. OSHA - Permissible Exposure Limits (PEL) - Short Term Exposure Limits (STEL)

No limits found.

U.S. OSHA - Specifically Regulated Chemicals

No limits found.

ACGIH - Threshold Limit Values - Ceilings (TLV-C)

No limits found.

ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

No limits found.

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Chemical Name	CAS Number	Exposure Limit
Copper Sulfate Pentahydrate	7758-99-8	"1 mg/m ³ TWA (dust and mist, as Cu)" As Copper compounds [RR-00595-8]

8.2. Engineering Controls

No specific controls are needed. Normal room ventilation is adequate.

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Physical State:	liquid
Color:	Blue
Odor:	Data not available.
Odor Threshold:	Data not available.
Melting/Freezing Point:	Data not available.
Boiling Point/Range:	Approximately 100°C
Flammability:	Data not available.
Flammability/Explosive Limits:	Data not available.
Flash Point:	Not flammable
Auto-Ignition Temperature:	Data not available.
Decomposition Temperature:	Data not available.
pH:	App. 10.6
Kinematic Viscosity:	Data not available.
Solubility:	miscible
Vapor Pressure:	Data not available.
Evaporation Rate:	Data not available.
Relative Density:	1.1
Relative Vapor Density:	Data not available.
Particle Characteristics:	Data not available.
Partition Coefficient n-octanol/water, log	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

Hydroxylamine, alkalis, phosphates, hydrazine, sulfuric acid, finely powdered metals, active metals (Potassium, Sodium, Magnesium and Zinc).

10.4. Hazardous Decomposition Products

Will not occur.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Sodium Carbonate	497-19-8	Oral LD50 Rat 4090 mg/kg (Source: NLM_HSDB)
Copper Sulfate Pentahydrate	7758-99-8	Oral LD50 Rat 794 mg/kg (Source: Canada_WHMIS)

Acute Toxicity - Dermal Exposure:

No information found.

Chemical Name	CAS Number	Toxicity
Sodium Carbonate	497-19-8	Dermal LD50 Rabbit >2000 mg/kg (no deaths occurred, Source: ECHA)
Copper Sulfate Pentahydrate	7758-99-8	Dermal LD50 Rabbit >8 g/kg (Source: NLM_HSDB)

Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, dust or mist): 10.4626 mg/L, 4 h(calculated)

Chemical Name	CAS Number	Toxicity
Sodium Carbonate	497-19-8	Inhalation LC50 Rat 2300 mg/m3 2 h (aerosol, Source: ECHA_API)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
		No data found.

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
		No data found.

U.S. OSHA specifically regulated carcinogens

Chemical Name	CAS Number	Classification
		No data found.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

11.3 Additional Toxicology Information:

Causes serious eye irritation.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Sodium Carbonate	497-19-8	Freshwater Fish	Acute	LC50 96 h <i>Lepomis macrochirus</i> 300 mg/L [static] (EPA); LC50 96 h <i>Pimephales promelas</i> 310 - 1220 mg/L [static] (EPA)
Sodium Citrate Dihydrate	6132-04-3	Freshwater Fish	Acute	"LC50 96 h <i>Poecilia reticulata</i> 18000 - 32000 mg/L (IUCLID)" As Trisodium citrate [68-04-2]
Copper Sulfate Pentahydrate	7758-99-8	Freshwater Fish	Acute	LC50 96 h <i>Lepomis macrochirus</i> 0.66 - 1.15 mg/L [semi-static] (EPA); LC50 96 h <i>Lepomis macrochirus</i> 0.96 - 1.8 mg/L [static] (EPA); LC50 96 h <i>Oncorhynchus mykiss</i> 0.1478 - 0.165 mg/L [flow-through] (EPA); LC50 96 h <i>Oncorhynchus mykiss</i> 0.09 - 0.19 mg/L [static] (EPA); LC50 96 h <i>Pimephales promelas</i> 0.6752 mg/L [static] (EPA)
Sodium Carbonate	497-19-8	Water Flea	Acute	EC50 48 h <i>Daphnia magna</i> 265 mg/L (IUCLID)
Sodium Citrate Dihydrate	6132-04-3	Water Flea	Acute	"EC50 48 h <i>Daphnia magna</i> 5600 - 10000 mg/L (IUCLID)" As Trisodium citrate [68-04-2]
Copper Sulfate Pentahydrate	7758-99-8	Water Flea	Acute	EC50 48 h <i>Daphnia magna</i> 0.147 - 0.227 mg/L [Static] (EPA)

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.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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.

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

Not regulated according to IATA Dangerous Goods Regulations.



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

14.3 Transportation of Dangerous Goods (TDG, Canada)

Not regulated according to TDG regulations.

SECTION 15: Regulatory Information

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

15.01. Occupational Safety and Health Administration (OSHA) Hazards

Chemical Name	CAS Number	Regulatory Information
No data found.		

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

Chemical Name	CAS Number	RQ
No data found.		

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

Chemical Name	CAS Number	Regulatory Information
Copper Sulfate Pentahydrate	7758-99-8	"10 lb final RQ; 4.54 kg final RQ" As Cupric sulfate [7758-98-7]

15.04. Superfund Amendments and Reauthorization Act (SARA) 313 Toxics Release Inventory (TRI)

Chemical Name	CAS Number	List	Regulatory Information
Copper Sulfate Pentahydrate	7758-99-8	Emission Reporting	"1.0 % de minimis concentration (includes any unique chemical substance that contains Copper as part of that chemical's infrastructure except for CAS numbers 147-14-8, 1328-53-6, or 14302-13-7, or copper phthalocyanine compounds that are substituted with only Hydrogen and/or Bromine and/or Chlorine that meet the molecular structure specified within the regulation, listed under Chemical Category N100)" As Copper compounds [RR-00595-8]

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Copper Sulfate Pentahydrate	7758-99-8	"Present" As Cupric sulfate [7758-98-7]

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Copper Sulfate Pentahydrate	7758-99-8	"Environmental hazard" As Sulfuric acid, copper(2+) salt (1:1) [7758-98-7]; "Environmental hazard" As Copper compounds [RR-00595-8]

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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

Chemical Name	CAS Number	Regulatory Information
Copper Sulfate Pentahydrate	7758-99-8	"sn 0549" As Cupric sulfate [7758-98-7]; "sn 2215" As Copper compounds [RR-00595-8]

15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
No data found.		

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

Chemical Name	CAS Number	List	Status
Sodium Carbonate	497-19-8	DSL	Present
Sodium Citrate Dihydrate	6132-04-3	DSL	"Present" As Trisodium citrate [68-04-2]
Sodium Citrate Dihydrate	6132-04-3	NDSL	"Present" As 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, sodium salt [994-36-5]
Water	7732-18-5	DSL	Present
Copper Sulfate Pentahydrate	7758-99-8	DSL	"Present" As Cupric sulfate [7758-98-7]

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

Chemical Name	CAS Number	Status
Sodium Carbonate	497-19-8	Present (ACTIVE)
Sodium Citrate Dihydrate	6132-04-3	"Present (ACTIVE)" As 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, sodium salt (1:3) [68-04-2]; "Present (ACTIVE)" As 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, sodium salt (1:?) [994-36-5]
Water	7732-18-5	Present [XU] (ACTIVE)
Copper Sulfate Pentahydrate	7758-99-8	"Present (ACTIVE)" As Sulfuric acid, copper(2+) salt (1:1) [7758-98-7]

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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

Chemical Name	CAS Number	List	Number
Sodium Carbonate	497-19-8	EINECS	207-838-8
Sodium Citrate Dihydrate	6132-04-3	EINECS	"200-675-3" As Trisodium citrate [68-04-2]; "213-618-2" As Citric acid, sodium salt [994-36-5]
Water	7732-18-5	EINECS	231-791-2
Copper Sulfate Pentahydrate	7758-99-8	EINECS	"231-847-6" As Copper sulphate [7758-98-7]

15.12. China - Inventory of Existing chemical Substances (IECSC)

Chemical Name	CAS Number	Status
Sodium Carbonate	497-19-8	Present [34127]
Sodium Citrate Dihydrate	6132-04-3	Present [11057]
Water	7732-18-5	Present [32224]
Copper Sulfate Pentahydrate	7758-99-8	Present [35060]

15.13. Korea - Existing Chemicals Inventory (KECI/KECL)

Chemical Name	CAS Number	List	Status
Sodium Carbonate	497-19-8	Annex 1	Present [KE-31380]
Sodium Citrate Dihydrate	6132-04-3	Annex 1	"Present [KE-20843]" As 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, trisodium salt [68-04-2]; "Present [KE-06042]" As 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, sodium salt [994-36-5]
Water	7732-18-5	Annex 1	Present [KE-35400]
Copper Sulfate Pentahydrate	7758-99-8	Annex 1	"Present [KE-08956]" As Cupric sulfate [7758-98-7]
Copper Sulfate Pentahydrate	7758-99-8	Annex 2	"97-3-718 (1997-3-0718)" As Inorganic copper salts [RR-03690-8]

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

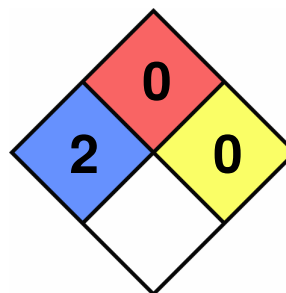
15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Sodium Carbonate	497-19-8	(1)-164
Sodium Citrate Dihydrate	6132-04-3	(2)-1323 (not considered as a new chemical substance, listed under Citric acid salt (Na,K,Li,Ca,Mg,Al))
Water	7732-18-5	- (listed on Japanese Pharmacopoeia 8th Edition)
Copper Sulfate Pentahydrate	7758-99-8	(1)-300 (not considered as a new chemical substance)

SECTION 16: Other Information

16.1 National Fire Protection Associate (NFPA) Rating

Health: 2
Flammability: 0
Reactivity: 0
Special Hazard:



16.2 Document Revision

Last Revision Date:
 2026-05-22

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.