



MATERIAL SAFETY DATA SHEET

BENEDICT SOL QUAL 3.8L
Carolina Biological Supply

Revised: 01/16/08
Replaces: 06/21/06
Printed: 01/30/08

1. PRODUCT DESCRIPTION

Product Name: **Benedict's Solution, Qualitative**
Product Code(s): 84-7111, 84-7113, 20-2340, 20-2341, 20-2345, 20-2500, 20-2501, 84-1112, 10-1026, 84-1137, 97-4038
Size: 30 mL, 120 mL, 500 mL, 4 L
Chemical Name: Does not apply, product is a mixture
CAS Number: None assigned to this mixture-See individual components below
Formula: See section 2
Synonyms: None Known
Distributor: Carolina Biological Supply Company
2700 York Road
Burlington, NC 27215
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec (Transportation Spill Response 24 hours): 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

Principal Hazardous Components:
Cupric Sulfate (CAS#7758-98-1) 1.5%
Sodium Citrate (CAS# 68-04-2) 15.1%
Sodium Carbonate (CAS# 497-19-8) 8.7%
Water - Balance
TLV and PEL units:
Cupric Sulfate: ACGIH-TLV-1 mg/m3 TWA (dust and mist - Copper)
OSHA-PEL-1 mg/m3 TWA (dust and mist - Copper)
Sodium Citrate: No TLV (ACGIH) or PEL (OSHA) information found.
Sodium Carbonate: No TLV (ACGIH) or PEL (OSHA) information found.

3. HAZARD IDENTIFICATION

Emergency Overview:
Potential Health Effects:
Eyes: May cause irritation.
Skin: Prolonged contact may cause irritation.
Ingestion: May be harmful if swallowed.
Inhalation: May cause irritation to respiratory tract.

4. FIRST AID MEASURES

Emergency and First Aid Procedures:
Eyes - Flush with water for at least 15 minutes, raising and lowering eyelids occasionally. Get medical attention if irritation persists.
Skin - Thoroughly wash exposed area for at least 15 minutes. Remove contaminated clothing. Launder contaminated clothing before reuse. Get medical attention if irritation persists.
Ingestion - If swallowed, if conscious, give plenty of water. Do not induce vomiting unless and until directed by medical personnel. Get medical attention immediately. Never give anything by mouth to an unconscious person.
Inhalation - Remove to fresh air. Give oxygen if breathing is difficult; give artificial respiration if breathing has stopped. Keep person warm and quiet, and get medical attention.

5. FIREFIGHTING PROCEDURES

Flash Point (Method Used): Not Flammable
NFPA Rating: None Established
Extinguisher Media:

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Use media suitable to extinguish surrounding fire.
Flammable Limits in Air % by Volume: Not applicable
Autoignition Temperature: No data available.
Special Firefighting Procedures: Firefighters should wear full protective equipment and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.
Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Unusual Fire and Explosion Hazards: May emit toxic fumes when heated to decomposition.

6. SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled:

Ventilate area of spill. Eliminate all sources of ignition.
Remove all non-essential personnel from area. Clean-up personnel should wear proper protective equipment and clothing. Absorb material with suitable absorbent and containerize for disposal.

7. SPECIAL PRECAUTIONS

Precautions to be Taken in Handling or Storing: Keep in tightly closed container in a cool place away from acid and acid fumes, and away from strong oxidizers. Do not get in eyes, on skin or on clothing. Do not breathe mist.

Other Precautions: Do not take internally. Wash thoroughly after handling.

8. SPECIAL PROTECTION INFORMATION

Respiratory Protection(Specify Type):

A NIOSH/MSHA chemical cartridge respirator should be worn if PEL or TLV is exceeded.

Ventilation:

Local Exhaust: Yes
Mechanical(General): Yes
Special: No
Other: No

Protective Gloves:

Rubber, neoprene, PVC, or equivalent.

Eye Protection:

Splash proof chemical safety goggles should be worn at all times.

Other Protective Clothing or Equipment:

Lab coat, eye wash, and safety shower.

9. PHYSICAL DATA

Molecular Weight: No data available.

Melting Point: No data available.

Boiling Point: Approximately 110-120°C

Vapor Pressure: N/A

Vapor Density(Air=1): 0.7 (water)

Specific Gravity(H2O=1): 1.145 at 20°C

Percent Volatile by Volume: Approximately 75%

Evaporation Rate(H2O=1): No data available.

Solubility in Water: Complete in all proportions

Appearance and Odor: Light blue solution with no odor

10. REACTIVITY DATA

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Stability: Stable
Conditions to Avoid: High temperature, excess heat.
Incompatibility (Materials to Avoid): Acids and strong oxidizers.
Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, nitrous oxides, sulfur oxides.
Hazardous Polymerization: Will not occur

11. TOXICITY DATA

Toxicity Data: To the best of our knowledge, the toxicological properties of this mixture have not been thoroughly evaluated. Data is listed for individual components.

Cupric Sulfate: Oral Rat LD50: 300 mg/kg

Sodium Citrate: Information not available

Sodium Carbonate: Oral Rat LD50: 4090 mg/kg

Effects of Overexposure:

Acute: See section 3

Chronic:

Cupric Sulfate: Mutation data cited. Reproductive Effects data cited. Tumorigenic data cited. Not listed as causing cancer by IARC, NTP, or OSHA.

Sodium Citrate: No chronic effects data found. Not listed as causing cancer by IARC, NTP, or OSHA.

Sodium Carbonate: Reproductive Effects data cited. Not listed as causing cancer by IARC, NTP, or OSHA.

Conditions Aggravated by Overexposure: No data available.

Target Organs: No data available.

Primary Route(s) of Entry: Inhalation

12. ECOLOGICAL DATA

EPA Waste Numbers: None

13. DISPOSAL INFORMATION

Waste Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations.

Always contact a permitted waste disposer (TSD) to assure compliance.

14. TRANSPORT INFORMATION

Not regulated for transport

15. REGULATORY INFORMATION

EPA TSCA Status: On TSCA Inventory

Hazard Category for SARA Section 311/312 Reporting: Acute

Product or Components	SARA EHS Sec. 302 TPQ	SARA Sec. 313 Chemicals		CERCLA Sec. 103 RQ lbs.	RCRA Sec. 261.33
		Name	Chemical List Category		
Cupric Sulfate	No	No	Copper	10	No
Sodium Citrate	No	No	No	No	No
Sodium Carbonate	No	No	No	No	No

16. ADDITIONAL INFORMATION

The information provided in this Material Safety Data Sheet represents a compilation of data drawn directly from various sources available to us.

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Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the Material Safety Data Sheet. Any employer must carefully assess the applicability of any information contained herein in regards to the particular use to which the employer puts the material.

Glossary

ACGIH.....American Conference of Governmental Industrial Hygienists
CAS Number..Chemical Abstracts Service Number
CERCLA.....Comprehensive Environmental Response, Compensation, and Liability Act
DOT.....U.S. Department of Transportation
IARC.....International Agency of Research on Cancer
mppcf.....million particles per cubic foot
N/A.....Not Available
NTP.....National Toxicology Program
OSHA.....Occupational Safety and Health Administration
PEL.....Permissible Exposure Limit
ppm.....parts per million
RCRA.....Resource Conservation and Recovery Act
SARA.....Superfund Amendments and Reauthorization Act
TLV.....Threshold Limit Value
TSCA.....Toxic Substances Control Act