

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 10.06.2016

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Revision date: 12.08.2017

## Benedicts Solution Quantitative

### SECTION 1: Identification

#### Product identifier

**Product name:** Benedicts Solution Quantitative

**Product code:** BS2300SS

#### Recommended use of the product and restriction on use

**Relevant identified uses:** Laboratory chemicals

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

#### Manufacturer or supplier details

**Manufacturer:**

**United States**

AquaPhoenix Scientific, Inc.

860 Gitts Run Road

Hanover, PA 17331

1-717-632-1291

#### Emergency telephone number:

**Canada**

**ChemTel: (24-hour)**

+1(800)255-3924

+1(813)248-0585 (International)

### SECTION 2: Hazard(s) identification

#### GHS classification:

Serious eye damage, category 1

Chronic aquatic hazard, category 3

#### Label elements

##### Hazard pictograms:



**Signal word:** Danger

#### Hazard statements:

H318 Causes serious eye damage.

H412 Harmful to aquatic life with long lasting effects.

#### Precautionary statements:

P273 Avoid release to the environment.

P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

P501 Dispose of contents and container as instructed in Section 13.

**Hazards not otherwise classified:** None

### SECTION 3: Composition/information on ingredients

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Identification	Name	Weight %
CAS number: 7732-18-5	Water	<100
CAS number: 497-19-8	Sodium Carbonate	<20
CAS number: 6132-04-3	Trisodium citrate dihydrate	<50
CAS number: 14459-95-1	Potassium Ferrocyanide	<5
CAS number: 7758-99-8	Copper Sulfate Pentahydrate	<10
CAS number: 333-20-0	Potassium thiocyanate	<20

**Additional Information:** None

## SECTION 4: First aid measures

### Description of first aid measures

#### General notes:

Not determined or not applicable.

#### After inhalation:

Loosen clothing as necessary and position individual in a comfortable position

Maintain an unobstructed airway

Get medical advice/attention if you feel unwell

#### After skin contact:

Rinse affected area with soap and water

If symptoms develop or persist, seek medical attention

#### After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes

Remove contact lens(es) if able to do so during rinsing

Immediately call a POISON CONTROL CENTER or seek medical attention

#### After swallowing:

Rinse mouth and then drink plenty of water

Do not induce vomiting

Get medical advice/attention if you feel unwell

### Most important symptoms and effects, both acute and delayed

#### Acute symptoms and effects:

Not determined or not applicable.

#### Delayed symptoms and effects:

Not determined or not applicable.

### Immediate medical attention and special treatment

#### Specific treatment:

Not determined or not applicable.

#### Notes for the doctor:

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Not determined or not applicable.

### SECTION 5: Firefighting measures

#### Extinguishing media

##### Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

##### Unsuitable extinguishing media:

Not determined or not applicable.

#### Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

#### Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing

Refer to Section 8

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

#### Special precautions:

Heating causes a rise in pressure, risk of bursting and combustion

Shut off sources of ignition

Carbon monoxide and carbon dioxide may form upon combustion

### SECTION 6: Accidental release measures

#### Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation

Ensure air handling systems are operational

Wear protective eye wear, gloves and clothing

#### Environmental precautions:

Should not be released into the environment

Prevent from reaching drains, sewer or waterway

#### Methods and material for containment and cleaning up:

Absorb with non-combustible liquid-binding material (sand, diatomaceous earth (clay), acid binders, universal binders)

Dispose of contents / container in accordance with local regulations

#### Reference to other sections:

Not determined or not applicable.

### SECTION 7: Handling and storage

#### Precautions for safe handling:

Do not eat, drink, smoke or use personal products when handling chemical substances.

Avoid breathing mist or vapor.

Use only with adequate ventilation.

#### Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.

Store away from foodstuffs.

### SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

#### Occupational Exposure limit values:

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Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Copper Sulfate Pentahydrate	7758-99-8	ACGIH TLV TWA 1.0 mg/m <sup>3</sup> , as Cu
United States (OSHA)	Copper Sulfate Pentahydrate	7758-99-8	OSHA PEL TWA 1.0 mg/m <sup>3</sup> , as Cu

#### Biological limit values:

No biological exposure limits noted for the ingredient(s).

#### Information on monitoring procedures:

Not determined or not applicable.

#### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

#### Personal protection equipment

##### Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

##### Skin and body protection:

Select glove material impermeable and resistant to the substance.

##### Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

#### General hygienic measures:

Wash hands before breaks and at the end of work.

Avoid contact with skin, eyes and clothing.

Perform routine housekeeping.

Wash contaminated clothing before reusing.

### SECTION 9: Physical and chemical properties

#### Information on basic physical and chemical properties

Appearance	Clear liquid
Odor	Odorless
Odor threshold	Not available
pH	Not available
Melting point/freezing point	Not available
Initial boiling point/range	100 °C
Flash point (closed cup)	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Upper flammability/explosive limit	Not available
Lower flammability/explosive limit	Not available
Vapor pressure	Not available
Vapor density	Not available
Density	Not available
Relative density	1.2
Solubilities	Completely soluble in water.

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Partition coefficient (n-octanol/water)	Not available
Auto/Self-ignition temperature	Not available
Decomposition temperature	Not available
Dynamic viscosity	Not available
Kinematic viscosity	Not available
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

### Other information

### SECTION 10: Stability and reactivity

#### Reactivity:

Does not react under normal conditions of use and storage.

#### Chemical stability:

Stable under normal conditions of use and storage.

#### Possibility of hazardous reactions:

None under normal conditions of use and storage.

#### Conditions to avoid:

None known.

#### Incompatible materials:

None known.

#### Hazardous decomposition products:

None known.

### SECTION 11: Toxicological information

#### Acute toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

#### Substance data:

Name	Route	Result
Copper Sulfate Pentahydrate	oral	LD50 Oral - Rat - 300 mg/kg
Potassium thiocyanate	oral	LD50 - Mouse - 594 mg/kg

#### Skin corrosion/irritation

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

#### Substance data:

Name	Result
Copper Sulfate Pentahydrate	Causes skin irritation.

#### Serious eye damage/irritation

**Assessment:** Causes serious eye damage

**Product data:** No data available.

#### Substance data:

Name	Result
Potassium thiocyanate	Causes serious eye damage.

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Name	Result
Copper Sulfate Pentahydrate	Causes serious eye irritation.
Sodium Carbonate	Causes eye irritation

#### Respiratory or skin sensitization

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**International Agency for Research on Cancer (IARC):** None of the ingredients are listed.

**National Toxicology Program (NTP):** None of the ingredients are listed.

#### Germ cell mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Reproductive toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Specific target organ toxicity (single exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Specific target organ toxicity (repeated exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**Information on likely routes of exposure:** No data available.

**Symptoms related to the physical, chemical and toxicological characteristics:** No data available.

**Other information:** No data available.

### SECTION 12: Ecological information

#### Acute (short-term) toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:**

Name	Result
Copper Sulfate Pentahydrate	EC50 - Daphnia magna - 182 ug/L - 48 h
	LC50 - Oncorhynchus mykiss - 32 ug/L - 96h

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Name	Result
Sodium Carbonate	LC50 - Lepomis macrochirus (Bluegill) - 300 mg/l - 96 h
	EC50 - Daphnia magna (Water flea) - 265 mg/l - 48 h
Potassium thiocyanate	NOEC - Daphnia magna - 1.25 mg/L - 21 d

#### Chronic (long-term) toxicity

**Product data:** No data available.

**Substance data:** No data available.

#### Persistence and degradability

**Product data:** No data available.

**Substance data:** No data available.

#### Bioaccumulative potential

**Product data:** No data available.

**Substance data:** No data available.

#### Mobility in soil

**Product data:** No data available.

**Substance data:** No data available.

**Other adverse effects:** No data available.

### SECTION 13: Disposal considerations

#### Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

### SECTION 14: Transport information

#### United States Transportation of dangerous goods (49 CFR DOT)

UN number	Not Regulated
UN proper shipping name	Not Regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	
Special precautions for user	None

#### International Maritime Dangerous Goods (IMDG)

UN number	Not Regulated
UN proper shipping name	Not Regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	
Special precautions for user	None

#### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not Regulated
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UN proper shipping name	Not Regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	
Special precautions for user	None

### Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Bulk Name	None
Ship type	None
Pollution category	None

### SECTION 15: Regulatory information

#### United States regulations

##### Inventory listing (TSCA):

7758-99-8	Copper Sulfate Pentahydrate	Not Listed
7732-18-5	Water	Listed
497-19-8	Sodium Carbonate	Listed
333-20-0	Potassium thiocyanate	Listed
14459-95-1	Potassium Ferrocyanide	Not Listed
6132-04-3	Trisodium citrate dihydrate	Not Listed

**Significant New Use Rule (TSCA Section 5):** Not determined.

**Export notification under TSCA Section 12(b):** Not determined.

##### SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

**SARA Section 302 extremely hazardous substances:** Not determined.

**SARA Section 313 toxic chemicals:** Not determined.

**CERCLA:** Not determined.

**RCRA:** Not determined.

**Section 112(r) of the Clean Air Act (CAA):** Not determined.

##### Massachusetts Right to Know:

6132-04-3	Trisodium citrate dihydrate	Not Listed
14459-95-1	Potassium Ferrocyanide	Not Listed
333-20-0	Potassium thiocyanate	Not Listed
497-19-8	Sodium Carbonate	Not Listed



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7732-18-5	Water	Not Listed
7758-99-8	Copper Sulfate Pentahydrate	Not Listed

#### New Jersey Right to Know:

6132-04-3	Trisodium citrate dihydrate	Not Listed
14459-95-1	Potassium Ferrocyanide	Not Listed
333-20-0	Potassium thiocyanate	Not Listed
333-20-0	Potassium thiocyanate	Not Listed
497-19-8	Sodium Carbonate	Not Listed
7732-18-5	Water	Not Listed
7758-99-8	Copper Sulfate Pentahydrate	Not Listed

#### New York Right to Know:

6132-04-3	Trisodium citrate dihydrate	Not Listed
14459-95-1	Potassium Ferrocyanide	Not Listed
333-20-0	Potassium thiocyanate	Not Listed
497-19-8	Sodium Carbonate	Not Listed
7732-18-5	Water	Not Listed
7758-99-8	Copper Sulfate Pentahydrate	Not Listed

#### Pennsylvania Right to Know:

6132-04-3	Trisodium citrate dihydrate	Not Listed
14459-95-1	Potassium Ferrocyanide	Not Listed
333-20-0	Potassium thiocyanate	Not Listed
333-20-0	Potassium thiocyanate	Not Listed
497-19-8	Sodium Carbonate	Not Listed
7732-18-5	Water	Not Listed
7758-99-8	Copper Sulfate Pentahydrate	Not Listed

California Proposition 65: Not determined.

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#### SECTION 16: Other information

**Abbreviations and Acronyms:** None

**Disclaimer:**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 2-0-0

**HMIS:** 2-0-0

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**End of Safety Data Sheet**