



**COLUMBUS CHEMICAL INDUSTRIES INC.**

P.O. BOX 8  
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**Material Safety Data Sheet**

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements

**U.S. Department of Labor**

Occupational Safety and Health Administration  
 (Non-Mandatory Form)  
 Form Approved  
 OMB No. 1218-0072

**IDENTITY** (as Used on Label and List)

**Benedict's, Quantitative, Solution**

**Note:** Blank spaces are not permitted. If any item is not applicable or no information is available, the space must be marked to indicate that.

**Section I**

Manufacturers /Distributor Address Number Street City State and Zip Code

Columbus Chemical Industries

N4335 Temkin Rd

Columbus, WI 53925-0008

Emergency Telephone Number

CHEMTREC 1-800-424-9300

Telephone Number for Information

920-623-2140

Date Prepared

12-12-2006

Signature of Preparer (optional)

**Section II - Hazardous Ingredients/Identity Information**

Hazardous Components (Specific Chemical Identity, Common Name(s))	CAS #	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Sodium Carbonate	497-19-8	Not available	Not available	Not available	6-8%
Sodium Citrate	6132-04-3	Not available	Not available	Not available	15-17%
Cupric Sulfate, Pentahydrate	7758-99-8	1 mg/m <sup>3</sup> TWA (as Cu dust)	Not available	Not available	1-3%
Potassium Ferrocyanide	14459-95-1	Not available	Not available	Not available	<0.1%
Potassium Thiocyanate	333-20-0	Not available	Not available	Not available	10-12%

**Section III - Physical/Chemical Characteristics**

Boiling Point	Not available	Specific Gravity (H <sub>2</sub> O = 1)	1.2393
Vapor Pressure (mm Hg)	Not available	Melting Point	Not available
Vapor Density (AIR = 1)	Not available	Evaporation Rate (Butyl Acetate = 1)	Not available

Solubility in Water

soluble

Appearance and Odor

Translucent blue solution

**Section IV Fire and Explosion Hazard Data**

Flash Point (Method Used)	Flammable Limits	LEL	UEL
Non flammable		Not applicable	Not applicable

Extinguishing Media

Use water spray, dry chemical, or carbon dioxide to extinguish supporting fire.

Special Fire Fighting Procedures

In the event of a fire, wear full protective clothing and NIOSH/MSHA-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Unusual Fire and Explosion Hazards

Emits toxic fumes under fire conditions. Fumes of cyanide may be released when heated to decomposition.

**Section V Reactivity Data**

Stability	Unstable		Conditions to Avoid	Heat, humidity
	Stable	X		

**Incompatibility Materials to Avoid**

Reducing agents, alkalies, strong oxidizers, active halogen compounds

**Hazardous Decomposition or Byproducts**

Carbon oxides, copper oxides, sodium oxides, sulfur oxides, sulfuric acid, cyanide fumes

**Hazardous Polymerization****Conditions to Avoid**

	May Occur		Not available.
	Will Not Occur	X	

**Section VI Health Hazard Data**

<b>Routes of Entry</b>	<b>Inhalation ?</b>	<b>Skin ?</b>	<b>Ingestion ?</b>
	Yes	Yes	Yes

**Health Hazards (Acute and Chronic)**

SKIN: May cause irritation EYE: May cause eye irritation. INHALATION: May be irritating if inhaled. Material may be irritating to the mucous membranes and upper respiratory tract. INGESTION: May be harmful if swallowed.

<b>Carcinogenicity</b>	<b>NTP</b>	<b>IARC Monographs</b>	<b>OSHA REGULATED?</b>
	Not listed	Not listed	Not listed

**Signs and Symptoms of Exposure.**

Irritation to eyes, skin, mucous membranes and upper respiratory tract characterized by itching, swelling, redness and pain. Gastrointestinal discomfort and possible pain upon ingestion.

**Medical Conditions Generally Aggravated by Exposure**

Unknown

**Emergency and First Aid Procedures** EYES /SKIN: Immediately flush with large amounts of water for at least 15 minutes.

Remove contaminated clothing. Assure adequate flushing of eyes by separating eyelids with fingers. INHALATION: remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. INGESTION:

**DO NOT** induce vomiting. Give large amounts of water. GENERAL: Wash contaminated clothing.

**Section VII Precautions for Safe Handling and Use****Steps to be Taken in Case Material is Released or Spilled**

Evacuate unprotected personnel from area. Wear rubber boots, heavy protective gloves and chemical safety goggles. Contain spill with dikes, sand or noncombustible absorbent material. Sweep up, place in a plastic bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

**Waste Disposal Method** Dispose of material in accordance with all applicable Federal, state, and local regulations.

**Precautions to be Taken in Handling and Storing**

Store in a cool, dry, well-ventilated area in tightly-closed, plainly-labelled containers. Store in a corrosion-resistant container. Protect against moisture, physical damage and light. Maintain adequate ventilation. Wash thoroughly after handling. Protect exposed tissues.

**Other Precautions** Containers, even when empty, will retain residue and vapors. Always obey hazard warnings and handle empty containers as if they were full.

**Section VII Control Measures**

**Respiratory Protection (Specify Type)** NIOSH / MSHA-approved respirator with dust/mist cartridge.

Ventilation	Local Exhaust	Recommended.	Special	Eyewash nearby.
	Mechanical (General)	Recommended.	Other	Safety shower nearby.

**Protective Gloves** Appropriate chemical-resistant gloves. **Eye Protection** Safety goggles.

**Other Protective Clothing or Equipment** Lab coat or apron, boots, dust-mask.

**Work /Hygienic Practices** Do **NOT** wear contact lenses when handling material. Wear appropriate personal protective Wash thoroughly after handling. Do not breath vapors. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Wash contaminated clothing before reuse.

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