Innovating Science™ MATERIAL SAFETY DATA SHEET

By Aldon Corporation
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"cutting edge science for the classroom"

3680.

MSDS No.: IS4007
Effective Date: May 18, 2005

SECTION I NAME

Product	Benedict's Powder
Chemical Synonyms	N/A
Formula	Mixture.
Unit Size	292 grams makes 1 Lt.
C.A.S. No.	Mixture.

24 HOUR EMERGENCY ASSISTANCE

CHEMTREC
800-424-9300
Day 585-226-6177

NFPA / HMIS *

Health	2
Fire	0
Reactivity	1

HAZARD RATING

MINIMAL	SLIGHT	MODERATE	SERIOUS	SEVERE
0	1	2	3	4

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Cupric sulfate, pentahydrate: (CAS No. 7758-99-8)	6%	See Section V.
Sodium carbonate, anhydrous: (CAS No. 497-19-8)	34%	None established.
Sodium citrate, dihydrate: (CAS No. 6132-04-3)	60%	None established.
WARNING! HARMFUL IF SWALLOWED.		

SECTION III PHYSICAL DATA

Melting Point (°F)	Mixture.	Specific Gravity (H_2O = 1)	Unknown.
Boiling Point (°F)	Mixture (decomposes)	Percent Volatile by Volume (%)	N/A
Vapor Pressure (mm Hg)	N/A	Evaporation Rate (=1)	N/A
Vapor Density (Air=1)	N/A		
Solubility in Water	Complete.		
Appearance & Odor	White crystalline powder; no odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Not applicable.	Flammable Limits in Air % by Volume	Lower	Upper
		N/A		
Extinguisher Media	Any media suitable for extinguishing the supporting fire.			

SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Fire or excessive heat may produce hazardous decomposition products as dust or fume.

D.O.T. NON-REGULATED.

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

SECTION V HEALTH HAZARD DATA

RB0085

Threshold Limited Value
None established for this product.
1 mg/m^3 as copper (air) (ACGIH, 2001).

Effects of Overexposure
INHALATION: High dust concentration may cause upper respiratory tract irritation. **EYES:** Contact with powder may cause eye irritation. **SKIN:** Prolonged or repeated skin contact may cause skin irritation. **INGESTION:** May be harmful if swallowed. Exercise appropriate procedures to minimize potential hazards. Target organs: Liver, kidneys.

Emergency and First Aid Procedures
INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person. **EYES:** Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. **SKIN:** Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION VI REACTIVITY DATA

Stability	**Unstable**		**Conditions to Avoid**
	Stable	X	Excessive temperature and heat.

Incompatibility (Materials to Avoid) Acids and strong oxidizers.

Hazardous Decomposition Products Thermal decomposition or burning may produce carbon dioxide and/or carbon monoxide, smoke.

Hazardous Polymerization		**Conditions to Avoid**
May Occur	**Will Not Occur**	Not applicable.
	X	

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled
Sweep up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Waste Disposal Method
Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

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

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) None needed in normal laboratory handling. If dusty conditions prevail, work in ventilation hood or wear a NIOSH/MSHA-approved dust mask or respirator.

Ventilation				
	Local Exhaust	Recommended.	**Special**	No.
	Mechanical (General)	Recommended.	**Other**	No.

Protective Gloves	Rubber.	**Eye Protection**	Chemical safety goggles.

Other Protective Equipment Faceshield, smock, apron, proper gloves, eye wash station.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing
Keep container tightly closed when not in use.
Store in a cool, dry place away from acids and acid fumes. Wash thoroughly after handling.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Avoid contact with eyes and prolonged contact with skin.
Remove and wash contaminated clothing.

Revision No. 8	Date 05/18/05	Approved James A. Bertsch	Chemical Safety Coordinator JAB

IS4007 BENEDICTS REAGENT, QUALITATIVE IN 50 ML OF WATER

To prepare the solution, place one capsule in about 1/2 the amount of total volume of warm deionized water required in a volumetric flask. Let stand 45 minutes and then mix thoroughly until material is completely dissolved. Add deionized water to the fill line of the volumetric flask, cap the flask and thoroughly mix.

OR

Place one capsule in about 1/2 the amount of warm deionized water required in a volumetric flask containing a small stir bar. Place the flask on a magnetic stirrer and stir for about 15 minutes or until the capsule material completely dissolves. Remove stir bar and rinse with deionized water, rinsing into the volumetric flask to avoid losing any solution concentrate. Dilute with deionized water to the fill line of the volumetric flask, cap the flask and thoroughly mix.

Alternative concentrations:

To make: 0.05M solution, dilute to 100 mL final volume
0.2M solution, dilute to 25 mL final volume

Safety Note: Normal safety precautions should always be taken when handling chemicals and chemical solutions, regardless of their packaging. See reverse side of this sheet for safety information.