Chemical Product and Company Information Section 1

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CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory use only. Not for drug, food or household use.

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BARFOED REAGENT Product

Glucose Test Solution Section 2 **Hazards Identification**

Signal word: WARNING Pictograms: No symbol required

Target organs: Respiratory system, Skin, Liver, Kidneys

GHS Classification:

Synonyms

Acute toxicity, oral (Category 5) Eye irritation (Category 2B)

GHS Label information: Hazard statement:

H303: May be harmful if swallowed. H320: Causes eye irritation.

Precautionary statement:

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.

P330: Rinse mouth.

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 attention.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3	n 3 Composition / Information on Ingredients									
Chemical Name		CAS#	%	EINECS						
Water Cupric acetate, mo Acetic acid, glacial		7732-18-5 6046-93-1 64-19-7	92.4% 6.6% 1.0%	231-791-2 205-553-3 200-580-7						

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. 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.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. 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 ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

Section 6 **Accidental Release Measures**

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage Page E2 of E2

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8	Exposure Controls / Personal Protection							
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)				
	Cupric acetate	Not established	Not established	Not established				

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Clear, blue-green liquid.

Odor: Vinegar-like odor.

Odor threshold: Data not available.

pH: Data not available

Melting / Freezing point: Approximately 0°C (32°F) (water) Boiling point: Approximately 100°C (212°F) (water)

Flash point: Data not available

Evaporation rate (Water = 1): <1

Flammability (solid/gas): Data not available.

Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): 14 (water)

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

Relative density (Specific gravity): Approximately 1.0 (water)

Solubility(ies): Complete in water.

Partition coefficient: Data not available
Auto-ignition temperature: Data not available
Decomposition temperature: Data not available.
Viscosity: Data not available.

Molecular formula: Mixture
Molecular weight: Mixture

Section 10 Stability & Reactivity

Chemical stability: Stable Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures which cause evaporation.

Incompatible materials: Strong oxidizers, acetylene, hydrazine, reducing agents, nitromethane.

Hazardous decomposition products: Carbon oxides.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 595 mg/kg [Copper acetate]; Oral-rat LD50: 3310 mg/kg [Acetic acid]

Skin corrosion/irritation: Data not available Serious eye damage/irritation: Data not available Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available STOT-single exposure: Data not available STOT-repeated exposure: Data not available Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful if inhaled. Ingestion: May be harmful if swallowed. Skin: Contact may cause irritation. Eyes: Contact with eyes causes irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is

not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: AG3500000 [Copper acetate]

Section 12 Ecological Information

Toxicity to fish: Pimephales promelas (fathead minnow), LC50 = 0.39 mg/L/96 hour [Copper acetate]

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), EC50 = 95 mg/L/24 hours [Acetic acid]

Toxicity to algae: Selenastrum capricornatum (green algae), EC50 = 85 µg/L/14 days [Copper acetate]

Persistence and degradability: No data available

Mobility in soil: No data available

Bioaccumulative potential: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Exceptions: Not applicable 2012 ERG Guide # Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Cupric acetate	Listed	100 lbs (45.4 kg)	Not listed	Listed	Not listed	Not listed
Acetic acid, glacial	Listed	5,000 lbs (2270 kg)	D001 ; D002	Listed	Not listed	Uncontrolled product

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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Marine pollutant: No