

## Material Safety Data Sheet

# Barfoed Reagent

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## Biozoa Biological Supply Company

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### Section 1 – Product Description

**Product Name:** Barfoed Reagent

**Recommended Use:** Science education applications

**Synonyms:** 3-Aminophthalhydrazide, o-Aminophthaloyl hydrazide, o-Aminophthalyl hydrazide, 3-Aminophthalic hydrazide, 5-Amino-2,3-dihydro-1,4-phthalazinedione

**Distributor:** Biozoa Biological Supply Company. Seoul, Geumcheon-gu, Doosan-ro 70, B-1008(Hyundai-Center)

**Chemical Information:** 02-862-2372 (9am-5pm (ET) M-F)

### Section 2 – Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING



Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.  
Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

**GHS Classification:**

Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Hazardous to the aquatic environment - Acute

Category 2, Hazardous to the aquatic environment - Chronic Category 2, Acute Toxicity - Oral Category 4

### Section 3 – Composition / Information on Ingredients

Chemical Name	CAS #	%
Cupric Acetate (CAS# 142-71-2) 6.65%	N/A; product is a mixture.	92.35
		6.65
		1

### Section 4 – First Aid Measures

**Emergency and First Aid Procedures:**

**Inhalation:** In case of accident by inhalation: remove casualty to fresh air and keep at rest.  
**Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
**Skin Contact:** IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.  
**Ingestion:** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

### Section 5 – Firefighting Procedures

**Extinguishing Media:** Use media suitable to extinguish surrounding fire.  
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.  
**Fire and/or Explosion Hazards:** Fire or excessive heat may produce hazardous decomposition products.

## Section 6 – Spill or Leak Procedures

**Steps to Take in Case Material Is Released or Spilled:**

Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Ventilate the contaminated area. Isolate area. Keep unnecessary personnel away. Avoid contact with skin and eyes. Ventilate the area by opening door and/or turning on fans and blowers. Do not allow the spilled product to enter public drainage system or open waterways. Use an inert absorbent such as sand or vermiculite. Place in properly labeled closed container. Collect spillage.

## Section 7 – Handling and Storage

**Handling:** Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Toxic by inhalation and if swallowed. Avoid contact with skin and eyes. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

**Storage:** Keep container tightly closed in a cool, well-ventilated place.

**Storage Code:** Green - general chemical storage

## Section 8 – Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Cupric Acetate, Monohydrate	1 mg/m <sup>3</sup> TWA (dust and mist, as Cu)	N/A	N/A	N/A
Acetic Acid	10 ppm TWA	15 ppm STEL	10 ppm TWA; 25 mg/m <sup>3</sup> TWA	N/A

**Control Parameters**

**Engineering Measures:** Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

**Personal Protective Equipment (PPE):** Lab coat, apron, eye wash, safety shower.

**Respiratory Protection:** No respiratory protection required under normal conditions of use.

**Eye Protection:** Wear chemical splash goggles when handling this product. Have an eye wash station available.

**Skin Protection:** Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

**Gloves:** Nitrile

## Section 9- Physical Data

**Formula:** See Section 3

**Molecular Weight:** N/A

**Appearance:** Blue Liquid

**Odor:** Mild Vinegar

**Odor Threshold:** No data available

**pH:** No data available

**Melting Point:** 0 C

**Boiling Point:** 100 C

**Flash Point:** No data available

**Flammable Limits in Air:** N/A

**Vapor Pressure:** N/A

**Evaporation Rate (BuAc=1):** 1

**Vapor Density (Air=1):** N/A

**Specific Gravity:** <1

**Solubility in Water:** Soluble

**Log Pow (calculated):** No data available

**Autoignition Temperature:** No data available

**Decomposition Temperature:** No data available

**Viscosity:** No data available

**Percent Volatile by Volume:** 94%

## Section 10- Reactivity Data

<b>Reactivity:</b>	No data available
<b>Chemical Stability:</b>	Stable under normal conditions
<b>Conditions to Avoid:</b>	Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition.
<b>Incompatible Materials:</b>	Water-reactive materials, Oxidizing materials, Acetic anhydride, Acetaldehydes, Caustics(bases), Halogens, Carbonates
<b>Hazardous Decomposition Products:</b>	Copper compounds, Carbon dioxide, Carbon monoxide
<b>Hazardous Polymerization:</b>	Will not occur

## Section 11 – Toxicity Data

<b>Routes of Entry</b>	Inhalation.
<b>Symptoms (Acute):</b>	N/A
<b>Delayed Effects:</b>	No data available

### Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water		Oral LD50 Rat 90000 mg/kg		
Cupric Acetate, Monohydrate		Oral LD50 Rat 501 mg/kg		
Acetic Acid				INHALATION LC50 MAMMAL 11.4 GM/M3 INHALATION LC50 Mouse 5620 ppm

### Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Acetic Acid		Not listed	Not listed	Not listed

### Chronic Effects:

<b>Mutagenicity:</b>	No evidence of a mutagenic effect.
<b>Teratogenicity:</b>	No evidence of a teratogenic effect (birth defect).
<b>Sensitization:</b>	No evidence of a sensitization effect.
<b>Reproductive:</b>	No evidence of negative reproductive effects.

### Target Organ Effects:

<b>Acute:</b>	See Section 2
<b>Chronic:</b>	Mutation data cited., Reproductive data cited., Not listed as a carcinogen by IARC, NTP or OSHA.

## Section 12- Ecological Data

<b>Overview:</b>	Moderate ecological hazard. This product may be dangerous to plants and/or wildlife. Keep out of waterways.
<b>Mobility:</b>	No data
<b>Persistence:</b>	Biodegradation
<b>Bioaccumulation:</b>	No data
<b>Degradability:</b>	No data
<b>Other Adverse Effects:</b>	No data

Chemical Name	CAS Number	Eco Toxicity
Water		No data available
Acetic Acid		Aquatic LC50 (96h) Fathead Minnow 79 MG/L Aquatic EC50 (24h) Daphnia 47 MG/L

## Section 13 – Disposal Information

<b>Disposal Methods:</b>	Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
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Waste Disposal Code(s):

Not Determined

## Section 14 – Transport Information

Ground - DOT Proper Shipping Name:

N/A

Air - IATA Proper Shipping Name:

Not regulated for air transport by IATA.

## Section 15 – Regulatory Information

**TSCA Status:** All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Acetic Acid		No	5000 lb RQ	5000 lb final RQ; 2270 kg final RQ	No	No

## Section 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. Biozoa Biological Supply makes 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 Services Abstract Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency of Research on Cancer
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