



**MSDS for Catalog # 10480**

Component	Description
1	Albumin Standard
2	Micro BCA Reagent A
3	Micro BCA Reagent B
4	Micro BCA Reagent C

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**SECTION 1: Product and Company Identification**

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**Identification of the substance or mixture**

**Catalog #:** 10480  
**Product Name:** Micro Bicinchoninic Acid (BCA) Protein Assay with BSA Protein Standard  
**Component:** Albumin Standard

**Company Identification**

Cepharm Life Sciences Inc.  
11830 W Market Place, Suite K  
Fulton, MD 20759  
USA  
Toll Free: 1-800-257-1565  
Phone: 410-636-4954

**24-hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident, Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Toll Free: 1-800-424-9300/ +1 703-527-3887 CCN 1010970**

**For Research Use Only. Not for use in diagnostic procedures.**

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**SECTION 2: Hazards identification**

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**OSHA/HCS status**

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

**Classification of the substance or mixture**

Not classified.

**GHS label elements****Signal word**

No signal word.

**Hazard statements**

No known significant effects or critical hazards.

**Precautionary statements**

**Prevention:** Not applicable.  
**Response:** Not applicable.  
**Storage:** Not applicable.  
**Disposal:** Not applicable.

**Hazards not otherwise classified:** None known.

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**SECTION 3: Composition / Information on Ingredients**

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**Substance/mixture**

Mixture

**Other means of identification**

Not available.

**CAS number/other identifiers**

**CAS number:** Not applicable.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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## SECTION 4: First Aid Measures

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### Description of necessary first aid measures

<b>Eye contact</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
<b>Ingestion</b>	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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

#### Potential acute health effects

<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	No specific data.
<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Ingestion</b>	No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

<b>Notes to physician:</b>	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments:</b>	No specific treatment
<b>Protection of first-aiders:</b>	No action shall be taken involving any personal risk or without suitable training.

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## SECTION 5: Firefighting Measures

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### **Extinguishing media**

<b>Suitable extinguishing media</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	None known.

**Specific hazards arising from the chemical** In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products** No specific data.

**Special protective actions for fire-fighters** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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## SECTION 6: Accidental Release Measures

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### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

**For emergency responders** If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

**Environmental precautions** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

## **Methods and materials for containment and cleaning up**

<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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## **SECTION 7: Handling & Storage**

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### **Precautions for safe handling**

<b>Protective measures:</b>	Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b>	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

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## **SECTION 8: Exposure Controls / Personal Protection**

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### **Control parameters**

**Occupational exposure limits**  
None

**Appropriate engineering controls**  
Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls**  
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### **Individual protection measures**

**Hygiene measures**  
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**  
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

### **Skin protection**

**Hand protection**  
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection**  
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection**  
Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**  
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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## SECTION 9: Physical and Chemical Properties

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### Information on basic physical and chemical properties

a) Appearance	Liquid, Colorless to light yellow.
b) Odor	Odorless
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	[Product does not sustain combustion.]
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	No data available
n) Water solubility	Easily soluble in the following materials: cold water and hot water
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	no data available
t) Oxidizing properties	No data available

### Other safety information

No data available

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## SECTION 10: Stability & Reactivity

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<b>Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	No specific data
<b>Incompatible materials</b>	No specific data
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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## SECTION 11: Toxicological Information

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### Information on toxicological effects

#### Acute toxicity

Not available.

#### **Conclusion/Summary**

To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

#### **Irritation/Corrosion**

Not available.

#### **Sensitization**

Not available.

#### **Mutagenicity**

Not available.

#### **Carcinogenicity**

Not available.

#### **Reproductive toxicity**

Not available.

#### **Teratogenicity**

Not available.

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

Not available.

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

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure**

Routes of entry anticipated: Oral, Inhalation.

**Potential acute health effects**

**Eye contact:** No known significant effects or critical hazards  
**Inhalation:** No known significant effects or critical hazards.  
**Ingestion:** No known significant effects or critical hazards.  
**Skin contact:** No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact:** No specific data  
**Inhalation:** No specific data.  
**Skin contact:** No specific data.  
**Ingestion:** No specific data.

**Delayed and immediate effects and also chronic effects from short and long term exposure****Short term exposure**

**Potential immediate effects**  
Not available.

**Potential delayed effects**  
Not available.

**Long term exposure**

**Potential immediate effects**  
Not available.

**Potential delayed effects**  
Not available.

**Potential chronic health effects**

Not available.

**General:** No known significant effects or critical hazards.  
**Carcinogenicity:** No known significant effects or critical hazards.  
**Mutagenicity:** No known significant effects or critical hazards.  
**Teratogenicity:** No known significant effects or critical hazards.  
**Developmental effects:** No known significant effects or critical hazards.  
**Fertility effects:** No known significant effects or critical hazards.

**Numerical measures of toxicity****Acute toxicity estimates**

Not available.

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**SECTION 12: Ecological Information**

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**Toxicity**

Not available.

**Persistence and degradability**

Not available.

**Bioaccumulative potential**

Not available.

**Mobility in soil**

**Soil/water partition coefficient (KOC):** Not available.

**Other adverse effects:** No known significant effects or critical hazards.

## SECTION 13: Disposal Considerations

### Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport Information

	DOT Classification	IATA
UN Number	Not regulated.	Not regulated.
UN proper shipping name	-	-
Transport hazard class(es)	-	-
Packing group	-	-
Environmental hazards	No.	No.
Additional information	-	-

### Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

## SECTION 15: Regulatory Information

### US Federal Regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

### Clean Air Act Section 112

(b) Hazardous Air Pollutants (HAPs): Not listed

### Clean Air Act Section 602

Class I Substances: Not listed

### Clean Air Act Section 602

Class II Substances: Not listed

### DEA List I Chemicals

(Precursor Chemicals): Not listed

### DEA List II Chemicals

(Essential Chemicals): Not listed

### SARA 302/304

#### Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Sodium azide	0 – 0.1	Yes.	500	-	1000	-

SARA 304 RQ: 2000000 lbs / 908000 kg

### SARA 311/312

Classification: Not applicable.

#### Composition/information on ingredients

No products were found.

### State regulations

Massachusetts: None of the components are listed.  
New York: None of the components are listed.  
New Jersey: None of the components are listed.  
Pennsylvania: None of the components are listed.  
Canada inventory: All components are listed or exempted.

Chemical Weapons Convention List Schedule I Chemicals:	Not listed
Chemical Weapons Convention List Schedule II Chemicals:	Not listed
Chemical Weapons Convention List Schedule III Chemicals:	Not listed

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## SECTION 16: Other Information

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**Disclaimer:**

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not represent any guarantee of the properties of the product. Cepham Life Sciences Incorporated and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.



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## SECTION 1: Product and Company Identification

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### Identification of the substance or mixture

**Catalog #:** 10480  
**Product Name:** Micro Bicinchoninic Acid (BCA) Protein Assay with BSA Protein Standard  
**Component:** Micro BCA Reagent A

### Company Identification

Cepharm Life Sciences Inc.  
705 Digital Drive, Suite S  
Linthicum Heights, MD 21090  
USA  
Toll Free: 1-800-257-1565  
Phone: 410-636-4954

**24-hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call: 443-538-9508**

**For Research Use Only. Not for use in diagnostic procedures.**

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## SECTION 2: Hazards identification

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### **OSHA/HCS status**

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

### **Classification of the substance or mixture**

Not classified.

### **GHS label elements**

**Signal word**  
No signal word.

**Hazard statements**  
No known significant effects or critical hazards.

### **Precautionary statements**

**Prevention:** Not applicable.  
**Response:** Not applicable.  
**Storage:** Not applicable.  
**Disposal:** Not applicable.

**Hazards not otherwise classified:** None known.

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## SECTION 3: Composition / Information on Ingredients

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### **Substance/mixture**

Mixture

### **Other means of identification**

Not available.

### **CAS number/other identifiers**

**CAS number:** Not applicable.

Ingredient name	%	CAS number
Sodium carbonate	5 – 7	497-19-8

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

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## SECTION 4: First Aid Measures

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### Description of necessary first aid measures

<b>Eye contact</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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

#### Potential acute health effects

<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	No specific data.
<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Ingestion</b>	No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

<b>Notes to physician:</b>	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments:</b>	No specific treatment
<b>Protection of first-aiders:</b>	No action shall be taken involving any personal risk or without suitable training.

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## SECTION 5: Firefighting Measures

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### **Extinguishing media**

**Suitable extinguishing media**  
**Unsuitable extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.  
None known.

### **Specific hazards arising from the chemical**

In a fire or if heated, a pressure increase will occur and the container may burst.

### **Hazardous thermal decomposition products**

Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides.

### **Special protective actions for fire-fighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

### **Special protective equipment for fire-fighters**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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## SECTION 6: Accidental Release Measures

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### Personal precautions, protective equipment and emergency procedures

#### **For non-emergency personnel**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

#### **For emergency responders**

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

#### **Environmental precautions**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### **Methods and materials for containment and cleaning up**

<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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## **SECTION 7: Handling & Storage**

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### **Precautions for safe handling**

<b>Protective measures:</b>	Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b>	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

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## **SECTION 8: Exposure Controls / Personal Protection**

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### **Control parameters**

**Occupational exposure limits**  
None

**Appropriate engineering controls**  
Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls**  
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### **Individual protection measures**

**Hygiene measures**  
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**  
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

### **Skin protection**

**Hand protection**  
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection**  
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection**  
Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**  
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## SECTION 9: Physical and Chemical Properties

### Information on basic physical and chemical properties

a) Appearance	Liquid, Clear.
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	11.25
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	[Product does not sustain combustion.]
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	No data available
n) Water solubility	Partially soluble in the following materials: cold water and hot water
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	no data available
t) Oxidizing properties	No data available

### Other safety information

No data available

## SECTION 10: Stability & Reactivity

<b>Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	No specific data
<b>Incompatible materials</b>	No specific data
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological Information

### Information on toxicological effects

#### Acute toxicity

Product / ingredient name	Result	Species	Dose	Exposure
Sodium carbonate	LD50 Oral	Rat	4090 mg/kg	-

**Conclusion/Summary** To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

#### Irritation/Corrosion

Product / ingredient name	Result	Species	Score	Exposure	Observation
Sodium carbonate	Eyes – mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes – moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes – Severe irritant	Rabbit	-	50 milligrams	-
	Skin – mild irritant	Rabbit	-	24 hours 500 milligrams	-

#### Sensitization

Not available.

#### Mutagenicity

Not available.

**Carcinogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

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

Not available.

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

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure**

Routes of entry anticipated: Oral, Inhalation, Inhalation.

**Potential acute health effects**

**Eye contact:** No known significant effects or critical hazards  
**Inhalation:** No known significant effects or critical hazards.  
**Ingestion:** No known significant effects or critical hazards.  
**Skin contact:** No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact:** No specific data  
**Inhalation:** No specific data.  
**Skin contact:** No specific data.  
**Ingestion:** No specific data.

**Delayed and immediate effects and also chronic effects from short and long term exposure****Short term exposure**

**Potential immediate effects**  
 Not available.

**Potential delayed effects**  
 Not available.

**Long term exposure**

**Potential immediate effects**  
 Not available.

**Potential delayed effects**  
 Not available.

**Potential chronic health effects**

Not available.

**General:** No known significant effects or critical hazards.  
**Carcinogenicity:** No known significant effects or critical hazards.  
**Mutagenicity:** No known significant effects or critical hazards.  
**Teratogenicity:** No known significant effects or critical hazards.  
**Developmental effects:** No known significant effects or critical hazards.  
**Fertility effects:** No known significant effects or critical hazards.

**Numerical measures of toxicity****Acute toxicity estimates**

Route	ATE value
Oral	47757.1 mg/kg

**SECTION 12: Ecological Information****Toxicity**

Product / ingredient name	Result	Species	Exposure
Sodium carbonate	Acute EC50 242000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute LC50 176000 µg/l Fresh water	Crustaceans – Amphipoda	48 hours
	Acute LC50 265000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 300000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours

**Persistence and degradability**

Not available.

**Bioaccumulative potential**

Not available.

**Mobility in soil**

Soil/water partition coefficient (KOC): Not available.

Other adverse effects: No known significant effects or critical hazards.

**SECTION 13: Disposal Considerations****Disposal methods**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport Information**

	<b>DOT Classification</b>	<b>IATA</b>
<b>UN Number</b>	Not regulated.	Not regulated.
<b>UN proper shipping name</b>	-	-
<b>Transport hazard class(es)</b>	-	-
<b>Packing group</b>	-	-
<b>Environmental hazards</b>	No.	No.
<b>Additional information</b>	-	-

**Special precautions for user**

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not available.

**SECTION 15: Regulatory Information****US Federal Regulations**

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 311: Sodium hydroxide

**Clean Air Act Section 112****(b) Hazardous Air Pollutants (HAPs):** Not listed**Clean Air Act Section 602****Class I Substances:** Not listed**Clean Air Act Section 602****Class II Substances:** Not listed**DEA List I Chemicals****(Precursor Chemicals):** Not listed**DEA List II Chemicals****(Essential Chemicals):** Not listed**SARA 302/304****Composition/information on ingredients**

No products were found.

**SARA 304 RQ:** Not applicable**SARA 311/312****Classification:** Not applicable.

**Composition/information on ingredients**

**State regulations**

**Massachusetts:** None of the components are listed.  
**New York:** None of the components are listed.  
**New Jersey:** None of the components are listed.  
**Pennsylvania:** None of the components are listed.  
**Canada inventory:** All components are listed or exempted.

**Chemical Weapons Convention List Schedule I Chemicals:** Not listed  
**Chemical Weapons Convention List Schedule II Chemicals:** Not listed  
**Chemical Weapons Convention List Schedule III Chemicals:** Not listed

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**SECTION 16: Other Information**

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**Hazardous Material Information System (USA)**

**Health** 0  
**Chronic Health Hazard** 0  
**Flammability** 0  
**Physical hazards** 0

**National Fire Protection Association (USA)**

**Health** 0  
**Flammability** 0  
**Instability / Reactivity** 0  
**Special** 0

**Disclaimer:**

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not represent any guarantee of the properties of the product. Cepham Life Sciences Incorporated and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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## SECTION 1: Product and Company Identification

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### Identification of the substance or mixture

**Catalog #:** 10480  
**Product Name:** Micro Bicinchoninic Acid (BCA) Protein Assay with BSA Protein Standard  
**Component:** Micro BCA Reagent B

### Company Identification

Cepharm Life Sciences Inc.  
705 Digital Drive, Suite S  
Linthicum Heights, MD 21090  
USA  
Toll Free: 1-800-257-1565  
Phone: 410-636-4954

**24-hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call: 443-538-9508**

**For Research Use Only. Not for use in diagnostic procedures.**

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## SECTION 2: Hazards identification

---

### **OSHA/HCS status**

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

### **Classification of the substance or mixture**

Not classified.

### **GHS label elements**

**Signal word**  
No signal word.

**Hazard statements**  
No known significant effects or critical hazards.

### **Precautionary statements**

**Prevention:** Not applicable.  
**Response:** Not applicable.  
**Storage:** Not applicable.  
**Disposal:** Not applicable.

**Hazards not otherwise classified:** None known.

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## SECTION 3: Composition / Information on Ingredients

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### **Substance/mixture**

Mixture

### **Other means of identification**

Not available.

### **CAS number/other identifiers**

**CAS number:** Not applicable.

Ingredient name	%	CAS number
[2,2'-Biquinoline]-4,4'-dicarboxylic acid, sodium salt (1:2)	3 – 5	979-88-4

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**



Occupational exposure limits, if available, are listed in Section 8.

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## SECTION 4: First Aid Measures

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### Description of necessary first aid measures

<b>Eye contact</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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

#### Potential acute health effects

<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	No specific data.
<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Ingestion</b>	No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

<b>Notes to physician:</b>	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Specific treatments:</b>	No specific treatment
<b>Protection of first-aiders:</b>	No action shall be taken involving any personal risk or without suitable training.

---

## SECTION 5: Firefighting Measures

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### **Extinguishing media**

<b>Suitable extinguishing media</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	None known.

### **Specific hazards arising from the chemical**

In a fire or if heated, a pressure increase will occur and the container may burst.

### **Hazardous thermal decomposition products**

Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
metal oxide/oxides.

### **Special protective actions for fire-fighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

### **Special protective equipment for fire-fighters**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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## SECTION 6: Accidental Release Measures

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### Personal precautions, protective equipment and emergency procedures

#### **For non-emergency personnel**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

#### **For emergency responders**

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

**Environmental precautions**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and materials for containment and cleaning up****Small spill**

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill**

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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**SECTION 7: Handling & Storage**

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**Precautions for safe handling****Protective measures:**

Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities**

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination

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**SECTION 8: Exposure Controls / Personal Protection**

---

**Control parameters****Occupational exposure limits**

None.

**Appropriate engineering controls**

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Individual protection measures****Hygiene measures**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection****Hand protection**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection**

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection**

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

### Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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## SECTION 9: Physical and Chemical Properties

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### Information on basic physical and chemical properties

a) Appearance	Liquid [Clear sparkling liquid]
b) Odor	Colorless to light yellow [Light]
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	[Product does not sustain combustion.]
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	No data available
n) Water solubility	Easily soluble in the following materials: cold water and hot water
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	no data available
t) Oxidizing properties	No data available

### Other safety information

No data available

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## SECTION 10: Stability & Reactivity

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<b>Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	No specific data
<b>Incompatible materials</b>	No specific data
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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## SECTION 11: Toxicological Information

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### Information on toxicological effects

#### Acute toxicity

Not available.

#### **Conclusion/Summary**

To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

#### **Irritation/Corrosion**

Not available.

#### **Sensitization**

Not available.

#### **Mutagenicity**

Not available.

#### **Carcinogenicity**

Not available.

#### **Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

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

Name	Category	Route of exposure	Target organs
[2,2'-Biquinoline]-4,4'-dicarboxylic acid, sodium salt (1:2)	Category 3	Not applicable.	Respiratory tract irritation.

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

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure**

Routes of entry anticipated: Oral, Inhalation, Inhalation.

**Potential acute health effects**

<b>Eye contact:</b>	No known significant effects or critical hazards
<b>Inhalation:</b>	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Ingestion:</b>	No known significant effects or critical hazards.
<b>Skin contact:</b>	No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

<b>Eye contact:</b>	No specific data.
<b>Inhalation:</b>	No specific data.
<b>Skin contact:</b>	No specific data.
<b>Ingestion:</b>	No specific data.

**Delayed and immediate effects and also chronic effects from short and long term exposure****Short term exposure**

**Potential immediate effects**  
Not available.

**Potential delayed effects**  
Not available.

**Long term exposure**

**Potential immediate effects**  
Not available.

**Potential delayed effects**  
Not available.

**Potential chronic health effects**

Not available.

<b>General:</b>	No known significant effects or critical hazards.
<b>Carcinogenicity:</b>	No known significant effects or critical hazards.
<b>Mutagenicity:</b>	No known significant effects or critical hazards.
<b>Teratogenicity:</b>	No known significant effects or critical hazards.
<b>Developmental effects:</b>	No known significant effects or critical hazards.
<b>Fertility effects:</b>	No known significant effects or critical hazards.

**Numerical measures of toxicity****Acute toxicity estimates**

Not available.

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**SECTION 12: Ecological Information**

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**Toxicity**

Not available.

**Persistence and degradability**

Not available.

**Bioaccumulative potential**

Not available.

**Mobility in soil**

Soil/water partition coefficient (KOC): Not available.

Other adverse effects:

No known significant effects or critical hazards.

## SECTION 13: Disposal Considerations

### Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport Information

	DOT Classification	IATA
UN Number	Not regulated.	Not regulated.
UN proper shipping name	-	-
Transport hazard class(es)	-	-
Packing group	-	-
Environmental hazards	No.	NO.
Additional information	-	-

### Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

## SECTION 15: Regulatory Information

### US Federal Regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

### Clean Air Act Section 112

(b) Hazardous Air Pollutants (HAPs): Not listed

### Clean Air Act Section 602

Class I Substances: Not listed

### Clean Air Act Section 602

Class II Substances: Not listed

### DEA List I Chemicals

(Precursor Chemicals): Not listed

### DEA List II Chemicals

(Essential Chemicals): Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

SARA 304 RQ: Not applicable

### SARA 311/312

Classification: Not applicable.

#### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
[2,2'-Biquinoline]-4,4'-dicarboxylic acid, sodium salt (1:2)	3 – 5	No.	No.	No.	Yes.	No.

**State regulations**

**Massachusetts:** None of the components are listed.  
**New York:** None of the components are listed.  
**New Jersey:** None of the components are listed.  
**Pennsylvania:** None of the components are listed.  
**Canada inventory:** All components are listed or exempted.

**Chemical Weapons Convention List Schedule I Chemicals:** Not listed  
**Chemical Weapons Convention List Schedule II Chemicals:** Not listed  
**Chemical Weapons Convention List Schedule III Chemicals:** Not listed

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**SECTION 16: Other Information**

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**Hazardous Material Information System (USA)**

**Health** 0  
**Chronic Health Hazard**  
**Flammability** 0  
**Physical hazards** 0

**National Fire Protection Association (USA)**

**Health** 0  
**Flammability** 0  
**Instability / Reactivity** 0  
**Special**

**Disclaimer:**

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---

## SECTION 1: Product and Company Identification

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### Identification of the substance or mixture

**Catalog #:** 10480  
**Product Name:** Micro Bicinchoninic Acid (BCA) Protein Assay with BSA Protein Standard  
**Component:** Micro BCA Reagent C

### Company Identification

Cepharm Life Sciences Inc.  
705 Digital Drive, Suite S  
Linthicum Heights, MD 21090  
USA  
Toll Free: 1-800-257-1565  
Phone: 410-636-4954

**24-hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call: 443-538-9508**

**For Research Use Only. Not for use in diagnostic procedures.**

---

## SECTION 2: Hazards identification

---

### **OSHA/HCS status**

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

### **Classification of the substance or mixture**

Not classified.

### **GHS label elements**

#### **Signal word**

No signal word.

#### **Hazard statements**

No known significant effects or critical hazards.

### **Precautionary statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards not otherwise classified:** None known.

---

## SECTION 3: Composition / Information on Ingredients

---

### **Substance/mixture**

Mixture

### **Other means of identification**

Not available.

### **CAS number/other identifiers**

**CAS number:** Not applicable.

Ingredient name	%	CAS number
Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	3 – 5	7758-99-8

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

---

## SECTION 4: First Aid Measures

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### Description of necessary first aid measures

<b>Eye contact</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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

#### Potential acute health effects

<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	No specific data.
<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Ingestion</b>	No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

<b>Notes to physician:</b>	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments:</b>	No specific treatment
<b>Protection of first-aiders:</b>	No action shall be taken involving any personal risk or without suitable training.

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## SECTION 5: Firefighting Measures

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### **Extinguishing media**

**Suitable extinguishing media**  
**Unsuitable extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.  
None known.

### **Specific hazards arising from the chemical**

In a fire or if heated, a pressure increase will occur and the container may burst.

### **Hazardous thermal decomposition products**

Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides.

### **Special protective actions for fire-fighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

### **Special protective equipment for fire-fighters**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

---

## SECTION 6: Accidental Release Measures

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### Personal precautions, protective equipment and emergency procedures

#### **For non-emergency personnel**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

#### **For emergency responders**

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

#### **Environmental precautions**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).



## **Methods and materials for containment and cleaning up**

<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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## **SECTION 7: Handling & Storage**

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### **Precautions for safe handling**

<b>Protective measures:</b>	Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b>	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
<b>Conditions for safe storage, including any incompatibilities</b>	Store between the following temperatures: 20 to 25°C (68 to 77°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

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## **SECTION 8: Exposure Controls / Personal Protection**

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### **Control parameters**

#### **Occupational exposure limits**

<b>Ingredient name</b>	<b>Exposure limits</b>
Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	<b>ACGIH TLV (United States).</b> TWA: 1 mg/m <sup>3</sup> <b>NIOSH REL (United States).</b> TWA: 1 mg/m <sup>3</sup>

#### **Appropriate engineering controls**

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

#### **Environmental exposure controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### **Individual protection measures**

#### **Hygiene measures**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### **Eye/face protection**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

### **Skin protection**

#### **Hand protection**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

#### **Body protection**

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

#### **Other skin protection**

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**SECTION 9: Physical and Chemical Properties****Information on basic physical and chemical properties**

a) Appearance	Liquid, Blue.
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	[Product does not sustain combustion.]
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	No data available
n) Water solubility	Easily soluble in the following materials: cold water and hot water
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	no data available
t) Oxidizing properties	No data available

**Other safety information**

No data available

**SECTION 10: Stability & Reactivity**

<b>Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	No specific data
<b>Incompatible materials</b>	No specific data
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological Information****Information on toxicological effects****Acute toxicity**

Product / ingredient name	Result	Species	Dose	Exposure
Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	LD50 Oral	Rat	300 mg/kg	-

**Conclusion/Summary** To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

**Irritation/Corrosion**

Not available.

**Sensitization**

Not available.

**Mutagenicity**

Not available.

**Carcinogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

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

Not available.

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

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure**

Routes of entry anticipated: Oral, Inhalation, Inhalation.

**Potential acute health effects**

**Eye contact:** No known significant effects or critical hazards  
**Inhalation:** No known significant effects or critical hazards.  
**Ingestion:** No known significant effects or critical hazards.  
**Skin contact:** No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact:** No specific data  
**Inhalation:** No specific data.  
**Skin contact:** No specific data.  
**Ingestion:** No specific data.

**Delayed and immediate effects and also chronic effects from short and long term exposure****Short term exposure**

**Potential immediate effects**  
 Not available.

**Potential delayed effects**  
 Not available.

**Long term exposure**

**Potential immediate effects**  
 Not available.

**Potential delayed effects**  
 Not available.

**Potential chronic health effects**

Not available.

**General:** No known significant effects or critical hazards.  
**Carcinogenicity:** No known significant effects or critical hazards.  
**Mutagenicity:** No known significant effects or critical hazards.  
**Teratogenicity:** No known significant effects or critical hazards.  
**Developmental effects:** No known significant effects or critical hazards.  
**Fertility effects:** No known significant effects or critical hazards.

**Numerical measures of toxicity****Acute toxicity estimates**

Route	ATE value
Oral	7500 mg/kg

**SECTION 12: Ecological Information****Toxicity**

Product / ingredient name	Result	Species	Exposure
Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	EC50 0.024 mg/l	Daphnia	48 hours
	Acute LC50 0.032 ppm Fresh Water	Fish – Oncorhynchus mykiss	96 hours

**Persistence and degradability**

Not available.

**Bioaccumulative potential**

Not available.

**Mobility in soil**





Soil/water partition coefficient (KOC): Not available.

Other adverse effects: No known significant effects or critical hazards.

**SECTION 13: Disposal Considerations****Disposal methods**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport Information**

	<b>DOT Classification</b>	<b>IATA</b>
<b>UN Number</b>	UN3082	UN3082
<b>UN proper shipping name</b>	Environmentally Hazardous Substance, Liquid, n.o.s. (Sulfuric acid copper(2+) salt (1:1), hydrate (1: 5), solution)	Environmentally Hazardous Substance, Liquid, n.o.s. (Sulfuric acid copper(2+) salt (1:1), hydrate (1: 5), solution)
<b>Transport hazard class(es)</b>	9  	9  
<b>Packing group</b>	III	III
<b>Environmental hazards</b>	Yes.	Yes.
<b>Additional information</b>	Non-bulk packages of this product are not regulated as hazardous materials unless transported by inland waterway. The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg.  <b>Special provisions</b> 8, 146, IB3, T4, TP1, TP29	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

**Special precautions for user**

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not available.

**SECTION 15: Regulatory Information****US Federal Regulations**

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)

Clean Water Act (CWA) 311: Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)

**Clean Air Act Section 112****(b) Hazardous Air Pollutants (HAPs):** Not listed**Clean Air Act Section 602****Class I Substances:** Not listed**Clean Air Act Section 602****Class II Substances:** Not listed**DEA List I Chemicals****(Precursor Chemicals):** Not listed**DEA List II Chemicals****(Essential Chemicals):** Not listed

**SARA 302/304****Composition/information on ingredients**

No products were found.

SARA 304 RQ: Not applicable

**SARA 311/312**

Classification: Not applicable.

**Composition/information on ingredients**

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Sulfuric acid copper (2+) salt (1:1), hydrate (1:5)	3 – 5	No.	No.	No.	Yes.	No.

**SARA 313**

	Product Name	CAS number	%
<b>Form R – Reporting documents</b>	Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	7758-99-8	3-5
<b>Supplier notification</b>	Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	7758-99-8	3-5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

**State regulations**

**Massachusetts:** The following components are listed: Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)  
**New York:** None of the components are listed.  
**New Jersey:** The following components are listed: COPPER compounds  
**Pennsylvania:** The following components are listed: COPPER COMPOUNDS  
**Canada inventory:** All components are listed or exempted.

**Chemical Weapons Convention List Schedule I Chemicals:** Not listed  
**Chemical Weapons Convention List Schedule II Chemicals:** Not listed  
**Chemical Weapons Convention List Schedule III Chemicals:** Not listed

**SECTION 16: Other Information****Hazardous Material Information System (USA)**

Health 1  
Chronic Health Hazard  
Flammability 0  
Physical hazards 0

**National Fire Protection Association (USA)**

Health 1  
Flammability 0  
Instability / Reactivity 0  
Special

**Disclaimer:**

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not represent any guarantee of the properties of the product. Cepham Life Sciences Incorporated and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.