

## MSDS for Catalog # 10479

Component	Description
1	Micro BCA Reagent A
2	Micro BCA Reagent B
3	Micro BCA Reagent C

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# Safety Data Sheet

REVISION: 02/28/2022

## **SECTION 1: Product and Company Identification**

### Identification of the substance or mixture

Catalog #:

**Product Name:** Micro Bicinchoninic Acid (BCA) Protein Assay

Component: Micro BCA Reagent A

### **Company Identification**

Cepham 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.

### **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.

Catalog #: 10479

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

CAS number: Not applicable.

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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.

### **SECTION 4: First Aid Measures**

#### Description of necessary first aid measures

Eye contact 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.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms

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Ingestion 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

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

Over-exposure signs/symptoms

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

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

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or

inhaled.

Specific treatments: No specific treatment

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training.

### **SECTION 5: Firefighting Measures**

Extinguishing media

Suitable extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media 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**

## 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.

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

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.

## **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

Catalog #: 10479 Product Name:

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

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 no data available or explosive limits

k) Vapor pressure
l) Vapor density
m) Relative density
No data available
No data available
No data available

n) Water solubility Partially soluble in the following materials: cold water and hot water

o) Partition coefficient: n-octanol/water
p) Auto-ignition temperature
q) Decomposition temperature
r) Viscosity
s) Explosive properties
t) Oxidizing properties
No data available
no data available
No data available

#### Other safety information

No data available

### **SECTION 10: Stability & Reactivity**

Reactivity

No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** The product is stable.

Conditions to avoid No specific data

Incompatible materials No specific data

Hazardous decomposition products

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

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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:

Carcinogenicity:

Mutagenicity:

Teratogenicity:

Developmental 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**

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#### **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**

	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 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.

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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:

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)**

Health0Chronic Health Hazard0Flammability0Physical hazards0

## 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.

Catalog #: 10479

## **SECTION 1: Product and Company Identification**

### Identification of the substance or mixture

**Catalog #:** 10479

Product Name: Micro Bicinchoninic Acid (BCA) Protein Assay

Component: Micro BCA Reagent B

### **Company Identification**

Cepham 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
[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.

### **SECTION 4: First Aid Measures**

### **Description of necessary first aid measures**

Eye contact 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.

Inhalation 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.

Skin contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms

occur.

Ingestion 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

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

Over-exposure signs/symptomsEye contactNo specific data.InhalationNo specific data.Skin contactNo specific data.IngestionNo specific data.

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

Notes to physician: 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.

**Specific treatments:** No specific treatment

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training.

### **SECTION 5: Firefighting Measures**

Extinguishing media

Suitable extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media 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.

### **SECTION 6: Accidental Release Measures**

#### 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.

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

### 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

## **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.

## **SECTION 9: Physical and Chemical Properties**

### Information on basic physical and chemical properties

a) Appearance Liquid [Clear sparking liquid]
b) Odor Colorless to light yellow [Light]

c) Odor Threshold
d) pH
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 no data available

or explosive limits

k) Vapor pressure No data available I) 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
p) Auto-ignition temperature
q) Decomposition temperature
r) Viscosity
s) Explosive properties
t) Oxidizing properties
No data available
no data available
No data available

#### Other safety information

No data available

### **SECTION 10: Stability & Reactivity**

Reactivity No specific test data related to reactivity available for this product or its ingredients.

Chemical stability The product is stable.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid No specific data

Incompatible materials No specific data

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should

not be produced.

## **SECTION 11: Toxicological Information**

### 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.

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### 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

Eye contact: No known significant effects or critical hazards

Inhalation: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

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:

Carcinogenicity:

Mutagenicity:

Teratogenicity:

Developmental effects:

No known significant effects or critical hazards.

## Numerical measures of toxicity

#### **Acute toxicity estimates**

Not available.

## **SECTION 12: Ecological Information**

### **Toxicity**

Not available.

### Persistence and degradability

Not available.

### **Bioaccumulative potential**

Not available.

### Mobility in soil

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

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## **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

Composition/information on ingredients	<u> </u>					
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.

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### 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:

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 0
Chronic Health Hazard
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.

## **SECTION 1: Product and Company Identification**

### Identification of the substance or mixture

**Catalog #:** 10479

Product Name: Micro Bicinchoninic Acid (BCA) Protein Assay

Component: Micro BCA Reagent C

### **Company Identification**

Cepham 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.

### **SECTION 4: First Aid Measures**

### **Description of necessary first aid measures**

Eye contact 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.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms

occur.

Ingestion 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

Eye contactNo known significant effects or critical hazards.InhalationNo known significant effects or critical hazards.Skin contactNo known significant effects or critical hazards.IngestionNo known significant effects or critical hazards.

Over-exposure signs/symptomsEye contactNo specific data.InhalationNo specific data.Skin contactNo specific data.IngestionNo specific data.

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

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or

inhaled.

Specific treatments: No specific treatment

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training.

## **SECTION 5: Firefighting Measures**

**Extinguishing media** 

**Suitable extinguishing media**Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media 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.

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**

### 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.

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

### 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 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.

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

### **Control parameters**

Occupational exposure limits

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

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#### 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 no data available

or explosive limits

k) Vapor pressure
l) Vapor density
m) Relative density
No data available
No data available
No data available

n) Water solubility Easily soluble in the following materials: cold water and hot water

o) Partition coefficient: n-octanol/water
p) Auto-ignition temperature
q) Decomposition temperature
r) Viscosity
s) Explosive properties
t) Oxidizing properties
No data available
no data available
No data available

#### Other safety information

No data available

### **SECTION 10: Stability & Reactivity**

Reactivity No specific test data related to reactivity available for this product or its ingredients.

Chemical stability The product is stable.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid No specific data

Incompatible materials No specific data

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should

not be produced.

## **SECTION 11: Toxicological Information**

### Information on toxicological effects

Acute toxicity

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

### 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 hazardsInhalation: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:

Carcinogenicity:

Mutagenicity:

Teratogenicity:

Developmental effects:

No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

	Acute toxicity estimates		
	Route	ATE value	
(	Oral	7500 mg/kg	

## **SECTION 12: Ecological Information**

#### **Toxicity**

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		
(1.1), Hydrate (1.5)	Acute LC50 0.032 ppm Fresh Water	Fish – Oncorhynchus mykiss	96 hours		

## Persistence and degradability

Not available.

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### **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	UN3082	UN3082
UN proper shipping name	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)
Transport hazard class(es)	9	9
Packing group	III	III
Environmental hazards	Yes.	Yes.
Additional information	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.  Special provisions 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	%
Form R - Reporting documents	Sulfuric acid copper(2+) salt (1:1),	7758-99-8	3-5
	hydrate (1:5)		
Supplier notification	Sulfuric acid copper(2+) salt (1:1),	7758-99-8	3-5
	hydrate (1:5)		

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:

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

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