

Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product Name : EzBCA Protein Assay Kit
BCA Reagent A
BCA Reagent B
BSA Standard
BGG Standard

Product Code : WSE-7520

Company Information

Company Name: ATTO Corporation

Address: 3-2-2 Motoasakusa, Taito-ku, Tokyo 111-0041, Japan

Department: Head Office Customer Department

Telephone Number: 03-5827-4861

Fax Number: 03-5827-6647

Emergency Contact: 03-5827-4871

Intended Use: For laboratory and research purposes

2. Hazards identification

BCA Reagent A: Not applicable under GHS classification criteria

BSA Standard: Not applicable under GHS classification criteria

BGG Standard: Not applicable under GHS classification criteria

BCA Reagent B

GHS Classification:

Hazards to Health

Skin Sensitization: Category 1

Germ Cell Mutagenicity: Category 2

Reproductive Toxicity: Category 2

Specific Target Organ Toxicity (Single Exposure) (Nervous System): Category 2

Specific Target Organ Toxicity (Single Exposure) (Blood): Category 2
Specific Target Organ Toxicity (Single Exposure) (Respiratory System): Category 2
Specific Target Organ Toxicity (Single Exposure) (Liver): Category 2
Specific Target Organ Toxicity (Single Exposure) (Kidney): Category 2
Specific Target Organ Toxicity (Repeated Exposure) (Blood): Category 2
Specific Target Organ Toxicity (Repeated Exposure) (Respiratory System): Category 2
Specific Target Organ Toxicity (Repeated Exposure) (Kidney): Category 2

Hazards to the Environment

Acute Aquatic Toxicity: Category 1
Chronic Aquatic Toxicity: Category 1

Label:



Signal Word: Warning

Hazard Information:

H317 May cause an allergic skin reaction
H341 Suspected of causing genetic defects
H361 Suspected of damaging fertility or the unborn child
H371 May cause damage to organs (nervous system, blood, respiratory system, liver, kidneys)
H373 May cause damage to organs (blood, respiratory system, kidneys) through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

Precautions:

Safety Measures

- Obtain the instruction manual before use.
- Do not inhale dust/fume/gas/mist/vapors/spray.
- Wash face, hands, and any exposed skin thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. Immediately call a doctor.

First Aid Measures

- If swallowed: Rinse mouth. Do NOT induce vomiting.
- If inhaled: Move the person to fresh air and keep comfortable for breathing.
- If on skin (or hair): Immediately remove all contaminated clothing. Rinse skin with water or shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
- If exposed or concerned: Get medical advice/attention.
- Call a doctor immediately.

Storage

- Store locked up.

Disposal

- Dispose of contents/container to an approved waste disposal facility.

3. Composition/information on ingredients

Classification of the product: Mixture

BCA Reagent A			
Component	Content(%)	Chemical formula	CAS No.
-	-	-	-
BCA Reagent B			
Component	Content(%)	Chemical formula	CAS No.
Copper(II) sulfate pentahydrate	5%>	CuO4S.5H2O	7758-99-8
BSA Standard			
Component	Content(%)	Chemical formula	CAS No.
-	-	-	-
BGG Standard			
Component	Content(%)	Chemical formula	CAS No.
-	-	-	-

4. First Aid Measures

- If inhaled: Move to a place with fresh air, keep the person warm and at rest, and ensure they gargle thoroughly. Seek medical attention.
- Skin contact: Wash with plenty of soap and water. If inflammation occurs, seek medical treatment.
- Eye contact: Immediately flush with clean, running water for at least 15 minutes.

Seek immediate medical attention. If wearing contact lenses and they can be easily removed, do so and continue to rinse. Immediate medical attention is necessary.

If swallowed: Do not give anything by mouth to an unconscious person. Have the person drink large amounts of water to induce vomiting and immediately contact a physician or poison control center.

5. Firefighting measures

Extinguishing Media: Water spray (mist), carbon dioxide (CO₂), foam, dry powder extinguishing agents, sand.

Specific Hazards Arising from the Fire: Thermal decomposition can release irritating and toxic gases and vapors.

Special Firefighting Methods: No information available.

Protection of Fire-fighters: Wear personal protective equipment. Firefighters must wear self-contained breathing apparatus and full firefighting turnout gear.

6. Accidental release measures

Precautions for Human Body, Protective Equipment, and Emergency Measures:

Indoors, ensure sufficient ventilation until processing is complete. Isolate the area around any leaks with ropes or similar barriers to prevent access by unauthorized personnel. Wear appropriate protective gear during operations to prevent skin contact with droplets, etc., and to avoid inhaling dust and gas. Work upwind and evacuate people downwind.

Environmental Precautions:

Be cautious to prevent any spilled product from being discharged into rivers or similar venues, thus avoiding environmental impact. Ensure that contaminated waste liquids are not discharged into the environment without proper treatment. Clean contaminated objects and areas thoroughly in accordance with environmental regulations.

Containment and Purification Methods and Equipment:

Absorb with dry sand, soil, sawdust, rags, etc., and collect in a sealable empty container.

Collection & Neutralization:

No available information.

7. Handling and Storage

Technical Measures:

Avoid contact with strong oxidizing agents. Use local exhaust ventilation.

Precautions:

Do not handle the containers roughly, such as by tipping over, dropping, imparting impact, or dragging. Take care to prevent leaks, spills, or scattering, and do not needlessly generate vapor or mist. After use, seal the container. After handling, wash hands, face, etc., thoroughly and encourage rinsing of the mouth. Eating, drinking, and smoking should not be done outside of designated areas. Do not bring gloves or other contaminated protective gear into rest areas.

Safety Handling Precautions:

Avoid contact with skin, eyes, and clothing. Wear personal protective equipment.

Storage

Appropriate Storage Conditions:

Avoid direct sunlight and store sealed in a refrigerator (2-10° C).

Safe Container Packaging Materials:

No available information.

Substances to Avoid Mixing:

Strong oxidizing agents.

8. Exposure Controls and Personal Protection

Facility Measures:

For indoor workspaces, ensure the source of emission is enclosed or local exhaust ventilation is installed. Provide safety showers, hand and face washing facilities near the handling area and clearly mark their location.

Control Concentration, Occupational Exposure Limits:

Not established.

Exposure limit guidelines:

Copper(II) sulfate pentahydrate 7758-99-8

Japan: N/A

ACGIH TLV: TWA: 1 mg/m³

Protective Equipment:

Respiratory Protection: Protective mask.

Hand Protection: Protective gloves.

Eye Protection: Safety goggles.
Skin and Body Protection: Protective boots, protective clothing.

9. Physical and Chemical Properties

BCA Reagent A

Physical state: Liquid
Color: Transparent
Odor: None
pH: 11-11.5
Specific temperatures/temperature ranges at which physical state changes:
Boiling point: Not available
Boiling range: Not available
Melting point: Not available
Flash point: None
Autoignition point: Not available
Explosive properties: None
Vapor pressure: Not available
Vapor density: Not available
Density: Not available
Solubility: Not available
Octanol/water partition coefficient: Not available
Other data: None

BCA Reagent B

Physical state: Liquid
Color: Blue Green
Odor: None
pH: None
Specific temperatures/temperature ranges at which physical state changes:
Boiling point: Not available
Boiling range: Not available
Melting point: Not available
Flash point: None
Autoignition point: Not available
Explosive properties: None
Vapor pressure: Not available

Vapor density: Not available
Density: Not available
Solubility: Not available
Octanol/water partition coefficient: Not available
Other data: None

BSA Standard

Physical state: Liquid
Color: Transparent
Odor: None
pH: None
Specific temperatures/temperature ranges at which physical state changes:
Boiling point: Not available
Boiling range: Not available
Melting point: Not available
Flash point: None
Autoignition point: Not available
Explosive properties: None
Vapor pressure: Not available
Vapor density: Not available
Density: Not available
Solubility: Not available
Octanol/water partition coefficient: Not available
Other data: None

BGG Standard

Physical state: Liquid
Color: Transparent
Odor: None
pH: None
Specific temperatures/temperature ranges at which physical state changes:
Boiling point: Not available
Boiling range: Not available
Melting point: Not available
Flash point: None
Autoignition point: Not available
Explosive properties: None
Vapor pressure: Not available

Vapor density: Not available
Density: Not available
Solubility: Not available
Octanol/water partition coefficient: Not available
Other data: None

10. Stability and Reactivity

BCA Reagent B

Stability: Stable under recommended storage conditions.
Reactivity: No data available.
Conditions to Avoid: Sunlight, heat, strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide (CO), carbon dioxide (CO₂), metal oxides.

11. Toxicological Information

BCA Reagent B

Components

Copper(II) sulfate pentahydrate

LD50 (oral, rat/mouse)	960 mg/kg (Rat)
LD50 (dermal, rat/rabbit)	No data available
LC50 (inhalation, rat/mouse)	No data available

12. Ecological information

Mobility:	Data not available
Persistence/Degradability:	Data not available
Bioaccumulation:	Data not available
Ecotoxicity:	Data not available
Environmental Standards:	Data not available

BCA Reagent B

Components

Copper(II) sulfate pentahydrate

Freshwater Algae Data:	No data available
Water Flea Data:	Daphnia magna EC500.0058 - 0.0073 mg/L (48 h)

Daphnia magna EC500.147 -0.227 mg/L (48 h)

Freshwater Fish Species Data: No data available

Microtox Data: No data available

log Pow: No data available

13. Disposal Considerations

Residual Waste: Prior to disposal, process the waste as much as possible to detoxify, stabilize, and neutralize, thereby reducing the level of hazard and harm. Comply with relevant laws and regulations, as well as local municipality standards for disposal.

Contaminated Containers/Packaging: Clean containers for recycling or dispose of them in accordance with relevant laws and local municipal standards. Ensure that all contents are completely removed before disposing of the containers.

14. Transport Information

IATA / ADR / DOT-US / IMDG

Classified as dangerous in the meaning of transport regulations.

UN number	UN3082
UN proper shipping name	Environmentally Hazardous Substance, Liquid, (Copper(II) sulfate, pentahydrate (1:1:5))
Transport hazard class(es)	9
Packing group	Not Applicable

Environmental Hazards yes

Special precautions for user Not Applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not Applicable.

15. Regulatory information

Chemical Substances Control Law: Type 1 Specified Chemical Substances (Article 2, Paragraph 2 of the Law, Article 1 of the Enforcement Order, Appendix

1) (Cabinet Order No.: 1-207).

Occupational Safety and Health Law: Hazardous substances requiring labeling (Article 57 of the Law, Article 18 of the Enforcement Order, Appendix 9) No.379; Hazardous substances requiring notification (Article 57-2 of the Law, Article 18-2 of the Enforcement Order, Appendix 9); Hazardous substances that require a risk assessment (Article 57-3).

Poison and Deleterious Substances Control Law: Not applicable.

Chemical Examination Law: 1-272.

Aviation Law: Other hazardous substances (Enforcement Regulations Article 194, Hazardous Materials Notification Appendix 1).

Other Laws:

Sewerage Law: Water quality standard substances (Article 12-2, Paragraph 2 of the Law, Article 9-4 of the Enforcement Order).

Law on the Prevention of Marine Pollution and Maritime Disaster: Individual product transport PP (Ministry of Land, Infrastructure, Transport, and Tourism Notification in accordance with Enforcement Regulations Article 30-2-3).

16. Other Information

This Safety Data Sheet (SDS) is prepared based on the latest materials and data available at the current time and may be revised with new findings. The precautions mentioned in the SDS are intended for normal handling. If the product user conducts special handling, please implement safety measures suitable for the application and usage method.

Moreover, while we exercise due care regarding the content mentioned in the SDS, we do not guarantee its content.

Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product Name : EzBCA Protein Assay Kit
Pretreatment Agent
Pretreatment solution
Product Code : WSE-7520

Company Information

Company Name: ATTO Corporation

Address: 3-2-2 Motoasakusa, Taito-ku, Tokyo 111-0041, Japan

Department: Head Office Customer Department

Telephone Number: 03-5827-4861

Fax Number: 03-5827-6647

Emergency Contact: 03-5827-4871

Intended Use: For laboratory and research purposes

2. Hazards identification

Pretreatment solution: Not applicable under GHS classification criteria

Pretreatment Agent

GHS Classification:

Hazardous to Health

Acute Toxicity (Oral):	Category 3
Skin Corrosion/Irritation:	Category 2
Serious Eye Damage/Eye Irritation:	Category 2A
Respiratory Sensitizer:	Category 1
Skin Sensitizer:	Category 1

Label :



Signal World : Danger

Hazard Identification Information:

- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H301 - Toxic if swallowed
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H317 - May cause an allergic skin reaction

Precautionary Statements:

Safety Precautions

- Do not eat, drink or smoke when using this product.
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Wash face, hands, and any exposed skin thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Do not take off contaminated work clothes outside the workplace.

First Aid Measures

- If swallowed: Rinse mouth. Immediately call a poison center or doctor.
- If inhaled: Move to fresh air and rest in a position comfortable for breathing.
- If experiencing respiratory symptoms: Call a poison center or doctor.
- If on skin (or hair): Immediately take off all contaminated clothing. Rinse skin with water/shower using soap.
- If skin irritation or rash occurs: Get medical advice/attention.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- If exposed or concerned: Get medical advice/attention.

Storage

- Store locked up.

Disposal

- Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Classification of the product: Mixture

Pretreatment Agent			
成分	含有量 (%)	化学式	CAS No.
Iodoacetamide	99%	C2H4INO	144-48-9
Pretreatment Solution			
成分	含有量 (%)	化学式	CAS No.
-	-	-	-

4. First Aid Measures

- If inhaled: Move to a place with fresh air, keep warm and at rest, and ensure thorough gargling. Seek medical evaluation.
- If skin contact: Wash with plenty of water using soap. If inflammation occurs, seek medical treatment.
- If eye contact: Immediately flush with clean, plentiful water for at least 15 minutes. If wearing contact lenses and they can be easily removed, do so and continue rinsing. Seek immediate medical attention.
- If swallowed: Have the person drink plenty of water and induce vomiting, then immediately contact a physician or poison control center.

4. First Aid Measures

- Extinguishing media: Water spray (mist), carbon dioxide (CO₂), foam, dry chemical powder, sand.
- Specific hazards arising from the fire: Thermal decomposition can release irritating and toxic gases and vapors.
- Special firefighting methods: No information available.
- Protection of firefighters: Wear personal protective equipment. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

6. Accidental release measures

Precautions for Human Exposure, Protective Equipment, and Emergency Procedures:

- In indoor scenarios, ensure adequate ventilation until processing is complete. Cordon off the area around a spill to prevent access by unauthorized personnel.

When working, wear appropriate protective gear to prevent skin contact with splashes and to avoid inhaling dust and gases. Operate from upwind and evacuate downwind persons.

Environmental Precautions:

Take care to prevent the spilled product from being discharged into rivers and causing environmental impact. Ensure contaminated waste fluids are disposed of properly without being released into the environment. Clean contaminated objects and locations in accordance with environmental regulations.

Methods and Materials for Containment and Cleaning Up:

Sweep up scattered substances and collect them in a sealable empty container.

Recovery and Neutralization:

No information available.

7. Handling and Storage

Handling

Technical Measures:

Avoid contact with strong oxidizing agents. Use local exhaust ventilation.

Precautions:

Do not handle containers roughly, such as by tipping, dropping, applying impact, or dragging. Prevent leaks, spills, and dispersal, and do not generate vapor or mist unnecessarily. Seal containers after use. After handling, wash hands, face, etc. thoroughly and gargle vigorously. Do not eat or smoke outside designated areas. Do not bring gloves or other contaminated protective gear into rest areas.

Safe Handling Instructions:

Avoid contact with skin, eyes, and clothing. Wear personal protective equipment.

Storage

Appropriate Storage Conditions:

Store containers in a dark place, tightly sealed, in a refrigerator (2–10° C).

Safe Container Packaging Materials: Glass

Substances to Avoid Mixing With: Strong oxidizing agents.

8. Exposure Controls and Personal Protection

Facility Measures:

When used indoors, enclose the source of emissions or install local exhaust ventilation.

Provide safety showers and hand and face wash facilities near the handling area and clearly indicate their location.

Control Concentration, Workplace Environmental Assessment Criteria:

Not established.

Exposure Limits: Not established.

Personal protective equipment:

Respiratory Protection: Protective masks.

Hand Protection: Protective gloves.

Eye Protection: Safety goggles.

Skin and Body Protection: Protective boots, protective clothing.

9. Physical and Chemical Properties

Pretreatment Agent

Physical State:

Form: Powder, crystalline.

Color: White to off-white.

Odor: None.

pH: Data not available.

Specific temperatures/temperature ranges at which physical state changes:

Boiling point: 94 - 97 ° C.

Boiling range: Data not available.

Melting point: Data not available.

Flash point: None.

Auto-ignition temperature: Data not available.

Explosive properties: None.

Vapor pressure: Data not available.

Vapor density: Data not available.

Density: Data not available.

Solubility: Data not available.

Octanol/water partition coefficient: Soluble in water, ethanol, and acetone.

Other data: None.

Pretreatment Solution

Physical State:

Form: Liquid.
Color: Transparent.
Odor: None.
pH: Data not available.

Specific temperatures/temperature ranges at which physical state changes:

Boiling point: Data not available.
Boiling range: Data not available.
Melting point: Data not available.
Flash point: None.
Auto-ignition temperature: Data not available.
Explosive properties: None.
Vapor pressure: Data not available.
Vapor density: Data not available.
Density: Data not available.
Solubility: Data not available.
Octanol/water partition coefficient: Data not available.
Other data: None.

10. Stability and Reactivity

Stability: May degrade upon exposure to light.
Reactivity: Data not available.
Conditions to avoid: Sunlight, heat, strong oxidizing agents.
Hazardous decomposition products: Carbon monoxide, carbon dioxide, nitrogen oxides, halides.

11. Toxicological Information

Pretreatment Agent

Acute toxicity:

Oral LD50: 74 mg/kg (mouse)
Dermal LD50: No data available
Inhalation LD50: No data available
Skin corrosion/irritation: No data available
Serious eye damage/eye irritation: No data available
Respiratory or skin sensitization: No data available
Germ cell mutagenicity: No data available

Carcinogenicity: No data available
Reproductive toxicity: No data available
Specific target organ toxicity (single exposure): No data available
Specific target organ toxicity (repeated exposure): No data available
Aspiration hazard: No data available

12. Ecological information

Mobility: Data not available
Persistence/Degradability: Data not available
Bioaccumulation: Data not available
Ecotoxicity: Data not available
Environmental Standards: Data not available

13. Disposal Considerations

Residual waste: Entrust to a professional waste disposal operator authorized by the prefectural governor.
Contaminated containers/packaging: Wash thoroughly with copious amounts of water and dispose of according to the type of container.

14. Transport Information

ADR/RID, IMDG, IATA

UN-No	UN2811
Proper Shipping Name	TOXIC SOLID, ORGANIC, N.O.S. (2-Iodoacetamide)
Hazard Class	6.1
Packing Group	III
Environmental hazards	Not Applicable
Special precautions for user	No data available

15. Regulatory information

Chemical Substances Control Law: Not applicable
Occupational Safety and Health Law: Designated as a dangerous and harmful

substance that should be labeled (Article 57 of the Law, Article 18 of the Enforcement Order) Notified as a dangerous and harmful substance (Article 57-2 of the Law, Article 18-2 of the Enforcement Order, Appendix 9) No. 606

Poisonous and Deleterious Substances Control Act: Not applicable

Chemical Examination Law (Chemical Substances Examination and Regulation Act):
Not applicable

Aviation Law: Classified as a poison under the Poisonous Substances Category (Enforcement Regulation Article 194, Hazardous Materials Notification Appendix 1)

Other Laws:

Regulations on the Carriage and Storage of Hazardous Materials by Ship: Classified as a poison under the Poisonous Substances Category (Regulations on Dangerous Materials Article 3, Hazardous Materials Notification Appendix 1)

16. Other Information

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