

Revision Date: Mar 2021



1. Product and Company Identification

Product Name: Aqueous Binder Powder for Li-ion Battery Cathode, BTA-520L
CAS#: 9004-67-5, 9003-04-7
Chemical Formula: $[C_6H_7O_2(OH)_3-m-n(OCH)_3M, CH_2CHCOONa] n]_x$
Identified uses: Laboratory chemicals, Binder
Contact Beyond Battery PTE.LTD.
Information: BLK 81 Ayer Rajah Crescent, #03-55, Singapore 139967
 Email: tech@beyond-battery.com
 Website: <https://beyond-battery.com/>

2. Hazards Identification

Emergency Overview: GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
 Eye irritation (Category 2A), H319

For the full text of the H-Statements mentioned in this Section, see Section 16

HMIS Rating

Health hazard: 2

Chronic Health Hazard: *

Flammability: 0

Physical Hazard 0

NFPA Rating

Health hazard: 2

Fire Hazard: 0

Reactivity Hazard: 0

GHS Label elements, including precautionary statements

Pictogram	
Signal	Danger
Hazard statement(s)	
H319	Causes serious eye irritation.

Revision Date: Mar 2021



beyond battery

	May form combustible dust concentrations in air
Precautionary statement(s)	
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/ attention.

Hazards not otherwise classified (HNOC) or not covered by GHS

Combustible dust

3. Composition/Information on Ingredients

Substance	Sodium polyacrylate modified methyl cellulose
Synonyms:	No data available
Formula:	$C_6H_7O_2(OH)_3\text{-}m\text{-}n(OCH)_3M, CH_2CHCOONa]_n]_x$
Molecular weight:	No data available
CAS-No.:	No data available

Hazardous Components	Classification	Concentration
Poly(acrylic acid sodium salt) CAS#: 9003-04-7	Eye Irritation, 2A; H319	No data available

4. First Aid Measures

4.1 Description of first aid measures

General Advice

Move out of the dangerous area. Consult a physician. Show this to the doctor in attendance.

If inhaled

If breathed in, move the person into fresh air. If not breathing, give artificial respiration.

Consult a physician.

Revision Date: Mar 2021



In the case of eye contact.

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol resistant-foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance mixture

Carbon oxides, Sodium oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further Information

No data available

6. Accidental Release Measures

6.1 Personal precautions, protective equipment, and emergency procedures

Revision Date: Mar 2021



beyond battery

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.
Moisture sensitive. Keep in a dry place.
1 year shelf life if under 38 °C

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure Control/ Personal Protection

8.1 Control parameters

Revision Date: Mar 2021



Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: Powder
	Colour: White
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	6-8
e) Melting point/freezing point	190-200°C
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
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	No data available
o) Partition coefficient: n- octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	200-300 mpa.s
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

No data available.

10. Stability and Reactivity

10.1 Reactivity

No data available

Revision Date: Mar 2021



10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Avoid moisture

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity LD50 Oral – Rat-

40,000 mg/kg

Inhalation: No data available

Dermal: 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

Revision Date: Mar 2021



Carcinogenicity

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

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

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

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

Reproductive toxicity

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

Additional Information

RTECS: WD6826000

Gastrointestinal disturbance. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological Information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

Revision Date: Mar 2021



12.3 Bio accumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

No data available

13. Disposal Considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. Transport Information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

Revision Date: Mar 2021



15. Regulatory Information

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard. Chronic Health Hazard

Massachusetts Right to Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components

Poly (acrylic acid sodium salt)

CAS-No.

9003-04-7

Revision Date

Cellulose, methyl ether

9004-67-5

New Jersey Right to Know Components

Poly (acrylic acid sodium salt)

9003-04-7

Cellulose, methyl ether

9004-67-5

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

16. Other Information

Eye irritation

H319- Causes serious eye infection

May form combustible dust concentrations in air

The information above is believed to be accurate and represents the best information currently available to us. However, it does not represent any guarantee of the properties of the product. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we shall not be held liable for any damage

Revision Date: Mar 2021



beyond battery

resulting from handling or from contact with the above product. Users should make their own investigations to determine the suitability of the information for their particular purposes.

