

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifiers

Product name : Supercapacitor Electrolyte TEABF4+ACN

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company : Watson International Ltd  
Room 1518, Asia Pacific Plaza,  
NO. 18, Zhaofeng Road, Kunshan City,  
Jiangsu Province, China. 215332

Telephone : +86-512-81867260/70/80

Fax : +86-512-81867260/70/80-3

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225  
Acute toxicity, Oral (Category 4), H302  
Acute toxicity, Inhalation (Category 4), H332  
Acute toxicity, Dermal (Category 4), H312  
Eye irritation (Category 2A), H319

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

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapour.

H302 + H312 + H332

Harmful if swallowed, in contact with skin or if inhaled

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H335

May cause respiratory irritation.

Precautionary statement(s)

P210

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233

Keep container tightly closed.

P240

Ground/bond container and receiving equipment.

P241

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242

Use only non-sparking tools.

P243	Take precautionary measures against static discharge.
P260	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P302 + P352	IF ON SKIN, wash with plenty of water.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	If exposed or concerned: Get medical advice/attention.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362 + P364	Take off contaminated clothing and wash it before use.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Locked in a storage place.
P501	Dispose of contents/ container to an approved waste disposal plant.

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none**

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substances**

<b>Pure substance/Mixture: Mixture</b>			
<b>Name: /</b>			
<b>Synonyms: /</b>			
<b>Formula: /</b>			
<b>Components:</b>			
<b>Chemical Name</b>	<b>Common Name</b>	<b>CAS No.</b>	<b>Content</b>
ACN	Acetonitrile	75-05-8	80%
TEA	tetraethylammonium tetrafluoroborate	429-06-1	20%

**4. FIRST AID MEASURES**

**4.1 Description of first aid measures**

**In case of eye contact**

Open the upper and lower eyelid immediately, and wash the eye with plenty of fresh water or physiological saline for at least 15 minutes and refer to the doctor. If irritation persists, seek medical attention.

**In case of skin contact**

Take off the polluted clothes and wash the skin thoroughly with warm soap water or fresh water. The medical treatment should be taken if needed.

**If inhaled**

Get away from the site and go to the fresh air area, and keep the respiratory tract unobstructed. If the sufferer has difficulty in breathing, the oxygen should be given and refer to the doctor.

**If swallowed**

If ingestion occurred, the patient cannot be taken the artificial respiration, and the appropriate medical equipment for treatment should be adopted.

- 4.2 Most important symptoms and effects, both acute and delayed**  
After inhaling the cause headache, dizziness, weakness, nausea and breathing difficulties. Prolonged and repeated contact of skin irritation.
- 4.3 Indication of any immediate medical attention and special treatment needed**  
No data available
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## 5. FIREFIGHTING MEASURES

- 5.1 Extinguishing media**  
**Suitable extinguishing media**  
Foam, dry powder fire extinguishers, water mist, dry sand and mud.
- 5.2 Special hazards arising from the substance or mixture**  
No data available
- 5.3 Special fire danger may encounter when extinguishing**  
Highly flammable liquid and vapor. Decomposition at high temperature may produce toxic gases. Severe reactions may cause fire and explosion. When the vapour contacts with fire, it may be ignited. Container may explode when heated. Liquid leakage may cause fire/explosion.
- 5.4 Special protective equipment for firefighters**  
Full-mask air purifying respirator with organic steam filter box, portable respirator, fire-resistance clothes.
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## 6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Do not touch the leaking or damaged containers if no proper protective measures is equipped. Do not clean or handle it with no professional supervision. Remove all sources of ignition. Use vapour to control the foam and reduce the vapour. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
- 6.2 Environmental precautions**  
Avoid the entering of substances into rivers, sewers, basements and other confined spaces.
- 6.3 Methods and materials for containment and cleaning up**  
Use inert materials (such as dry sand or soil) to absorb the chemical wastes, and put them in the container. Use detergents and water to wash the contaminated area after the waste is absorbed. Use clean and explosion-proof tools to collect the materials.
- 6.4 Preventive measures to prevent secondary hazards**  
No data available
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## 7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling**  
Before use, read and understand all the safety precautions. Use explosion-proof electrical, ventilation, lighting equipment. Use non-sparking tools. Use static-proof electrical facilities. Wash the hands thoroughly after handling. Do not eat, drink or smoke when contacting this product. The handling of the residual materials is included in this manual and the preventive measures should be carried out. Avoid long-term or repeated skin exposure. Do not enter if the storage area has no adequate ventilation. Please avoid the high temperature.
- 7.2 Conditions for safe storage, including any incompatibilities**  
Safe storage (including the conditions to be avoided). Store in a well-ventilated and cool place. Keep it sealed. The empty containers should be returned promptly and recycled.
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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Exposure limits**  
ACGIH regulations: No data available  
Korean regulations: No data available  
Biological exposure limits: No data available

## 8.2 Engineering control

Process isolation, local exhaust and ventilation and reduce the content in the air and other control methods. The shower equipment should be equipped at the storage and using place.

## 8.3 Personal protective equipment

### Eye/face protection

Avoid eye contact. Wear unvented goggles during operations in which exposure is likely. Wear full-face shield.

### Skin and body protection

Avoid skin contact. A pair of gloves made from the following materials is recommended: butyl rubber. Use one or more of the following personal protection items as necessary to prevent skin contact: apron or coveralls.

### Respiratory protection

Avoid breathing of airborne material. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half-mask organic vapor respirator with dust/mist pre-filter, full-face organic vapor respirator with dust/mist pre-filter.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: clear, liquid Colour: colorless to pale yellow
b) Odour	Slight pungent odor
c) Odour Threshold	No data available
d) pH	6-8
e) Melting point/freezing point	Melting point/range: -40 °C
f) Initial boiling point and boiling range	Around 81 °C
g) Flash point	9°C
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	0.86 g/mL at 25 °C
n) Water solubility	Soluble in 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
u) Flammability	Highly flammable

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## 10. STABILITY AND REACTIVITY

### 10.1 Stability

Flammable liquids.  
Severe reactions may cause fire and explosion.  
May cause explosion when the container is heated.  
Vapour can form explosive mixtures with air.  
It may generate irritating, corrosive and toxic gases in fire.  
It may produce toxic gases at high temperature.

### 10.2 Hazard reactions may occur under special state.

Burn or explosion in caught on fire

### 10.3 Materials to avoid

Combustible, Reducing agent, Antioxidant.

### 10.4 Conditions to avoid

Sparkles, Flames, Heat and Smoking.

### 10.5 Hazardous decomposition products

It may generate irritating and highly toxic gas through thermal decomposition and burning.

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Routes of exposure/symptoms

Respiratory: May cause respiratory irritation.  
Ingestion: may cause nausea, vomiting, diarrhea.  
Skin: May cause skin irritation.  
Eye mucous membrane: May cause eye irritation.

### 11.2 Acute toxicity

By mouth:  
LD50 1320-6690 mg/kg Rat[ACN]  
By skin:  
LD50 >2000mg/kg Rabbit[ACN]  
By Inhalation:  
LC50 26.8ppm Rat[ACN]

By eye:  
No data available

### 11.3 Skin corrosion/irritation

No data available

### 11.4 Eye corrosion/irritation

No data available

### 11.5 Respiratory or skin sensitization

No data available

### 11.6 Germ cell mutagenicity

No data available

### 11.7 Cancer

No data available

### 11.8 Reproductive toxicity

No data available

### 11.9 Specific target organ toxicity(single exposure)

No data available

### 11.10 Specific target organ toxicity(repeated exposure)

No data available

### 11.11 Inhalation hazard

No data available

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Fish:

LC50 1640mg/L 96 hr[ACN]

Crustaceans:

EC50 3600 mg/L 48hr Daphnia pulex[ACN]

Birds:

No data available

### 12.2 Persistence and degradability

Persistence: No data available

Degradability: No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Other harmful effect

No data available

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Disposal methods

Disposal of wastes and container should be in accordance with Dangerous Wastes Management Regulation.

### 13.2 Disposal considerations

The wastes disposal should be in accordance with the national, regional and local laws and regulations.

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## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 1648      Class: 3      Packing group: II

Proper shipping name: Acetonitrile

Reportable Quantity (RQ): 5000 lbs

Poison Inhalation Hazard: No

### IMDG

UN number: 1648      Class: 3      Packing group: II      EMS-No: F-E, S-D

Proper shipping name: ACETONITRILE

### IATA

UN number: 1648      Class: 3      Packing group: II

Proper shipping name: Acetonitrile

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## 15. REGULATORY INFORMATION

Hazardous Chemicals Catalog

Dangerous chemical safety regulations

Chemical classification and hazard communication - General

Chemical classification, precautionary labeling and precautionary statements of norms

Material Safety Data Sheet preparation of regulations

Globally Harmonized System of Classification and Labelling

Recommendations on the transport of dangerous goods-Model Regulations

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## 16. OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

### Further information

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