# Ningbo Veken Battery Co., Ltd.

# Material Safety Data Sheet

REPORT NO. : MSDS20210701006 DATE:2021.07.01

# Material Safety Data Sheet

Reference to ST/SG/AC.10/11/Rev.6 /Amend. 1 and GHS

## Section 1 - Chemical Product and Company Identification

**Chemical product identification**

**Sample Description:** Rechargeable Li-polymer Battery

**Recommended Uses:** Sale

**Sample Model:** LPN387482, 3.87V, 4820mAh

**Restrictions on use:** N/A

**Manufacturer name:** Ningbo Veken Battery Co., Ltd.

**Address:** No.2,Area 0212,West Zone,Free Trade Zone,Ningbo,Zhejiang Province, China

**Phone number:**/

**FAX:** 0574-86822356

**E-mail:** cfge@mail.veken.com

**Emergency phone number:**0574-86810021

## Section 2 - Hazards Identification

**Emergency overview:** N/A

**Classification according to GHS**

Not a dangerous substance according to GHS

**Label elements**

Hazard pictogram(s):No data available

Signal word: No data available

Hazard statement(s): No data available

**Precautionary statement(s):**

Prevention: No data available

Response: No data available

Storage: No data available

isposal: No data available

**Other hazards**

**Physical and chemical hazards:** See Section 10

**Human health hazards:** See Section 11

**Environmental hazards:** See Section 12

## Section 3 –Composition/Information on Ingredients

**Che mical characterization: Mixture**

| Composition | Molecular formula | CAS No. | Weight (%) |
|---|---|---|---|
| Lithium Cobalt Oxide | LiCoO2 | 12190-79-3 | 35-40% |
| Carbon | C | 1333-86-4 | 20-25% |
| Electrolyte | LiPF6 | 21324-40-3 | 1-2% |
| PVDF | (CH2-CF2)n | 24937-79-9 | 1-2% |
| Acetylene Black | C | 1333-86-4 | 0.1-0.5% |
| SBR | (C8H8.C4H6)x | 9003-55-8 | 0.2-0.8% |
| EC | C3H3O4 | 96-49-1 | 3-5% |
| DMC | C3H6O3 | 616-38-6 | 3-5% |
| Aluminum | Al | 7429-90-5 | 3-5% |
| Copper | Cu | 7440-50-8 | 5-10% |

## Section 4 - First Aid Measures

**Description of first aid measures**

**General information** No special measures required.

**After eye contact**

Flush eyes with plenty of water for several minutes while holding eyelids open. Get medical attention if irritation persists.

**After skin contact**

Remove contaminated clothing and shoes. Immediately wash with water and soap and rinse thoroughly.

Wash clothing and shoes before reuse. If irritation occurs, get medical attention.

**After inhalation**

Remove victim to fresh area. dminister artificial respiration if breathing is difficult. Seek medical attention.

**After swallowing**

Do not induce vomiting. Get medical attention.

**Personal protective equipment for first-aid responders:** No data available.

**Most important symptoms/effects, acute and delayed:** No data available.

**Indication of immediate medical attention and special treatment needed:** No data available.

## Section 5 - Fire Fighting Measures

**Suitable extinguishing media:**

Use extinguishing agent suitable for local conditions and the surrounding environment. Such as dry powder, $CO_2$.

**Unsuitable extinguishing media:**

No data available.

**Specific Hazards arising from the chemical:**

Special hazards arising from the substance or mixture

**Specific protective actions for fire-fighters:**

Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

## Section 6 - Accidental Release Measures

**Personal precautions:**

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

**Protective equipment:**

No data available.

**Emergency procedures:**

Remove ignition sources, evacuate area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, placed the spilled material into a suitable disposal container. Keep spilled material out of sewers, ditches and bodies of water.

**Environmental precautions:**

Do not allow material to be released to the environment without proper governmental permits.

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

All waste must refer to the United Nations, the national and local regulations for disposal.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## Section 7 - Handling and Storage

**Precautions for safe handling:**

Consumption of food and beverage should be avoided in work areas.

Wash hands with soap and water before eating, drinking.

Ground containers when transferring liquid to prevent static accumulation and discharge.

**Information**

**about fire and explosion protection**

Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures.

Do not short or install with incorrect polarity.

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

**Requirements to be met by storerooms and receptacles**

Store in a cool, dry, well-ventilated place.

**Information about storage in one common storage facility**

Keep away from heat, avoiding the long time of sunlight.

**Further information about storage conditions**

Keep container tightly sealed.

**Specific and use**

No data available.

## Section 8 - Exposure Controls/Personal Protection

Personal protective equipment;

Respiration protection: Self-contained breathing apparatus; Eye protection: Safety glasses

Skin protection: Rubber gloves;

## Section 9 - Physical and Chemical Properties

**Information on basic physical and chemical properties**

**Colour:** Not available.

**Physical State:** Not available.

**Odour:** Not available.

**Odour threshold:** Not available.

**pH:** Not available.

**Melting point/freezing point:** Not available.

**Initial boiling point and boiling range:** Not available.

**Flash Point:** Not available.

**Evaporation rate:** Not available.

**Flammability (solid, gas):** Not available

**Explosion Limits (vol% in air):** Not available.

**Vapour pressure, kPa at 20℃:** Not available.

**Density/Relative density (water = 1):** Not available.

**Solubility(ies):** Not available.

**Partition coefficient: n-octanol/water:** Not available.

**Auto-ignition temperature:** Not available.

**Decomposition temperature:** Not available.

**Viscosity:** Not available.

**Other information:**

**Voltage**

**Electric capacity**

**Electric Energy**

## Section 10 - Stability and Reactivity

**Reactivity:** No data available.

**Chemical stability:** Stable.

**Possibility of hazardous reactions:** No data available.

**Conditions to Avoid:** Flames, sparks, and other sources of ignition, incompatible materials.

**Incompatibilities materials:** Oxidizing agents, acid, base.

**Hazardous decomposition products:** Carbon monoxide, carbon dioxide, lithium oxide fumes.

## Section 11 - Toxicological Information

**Acute Toxicity:** No data available.

**Skin corrosion/irritation:** No data available.

**Serious eye damage/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.

**Information on the likely routes of exposure:** No data available.

**Eye:** No data available.

**Skin:** No data available.

**Ingestion:** No data available.

**Inhalation:** No data available.

## Section 12 - Ecological Information

**Ecological Toxicity:** No data available.

**Persistence and degradability:** No data available.

**Bioaccumulative Potential:** No data available.

**Mobility in Soil:** No data available.

**Other adverse effects:** No data available.

## Section 13 - Disposal Considerations

**Disposal methods:**

**Recommendation:**
Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packaging**

**Recommendation:** Disposal must be made according to official regulations.

## Section 14 - Transport Information

This report applies to by sea, by air and by land.

The Rechargeable Li-ion Battery must be of a design type proved to meet the testing requirements of the Manual of test and criteria, Part III, subsection 38.3

The Rechargeable Li-ion Battery according to Section II of PACKING INSTRUCTION 965-967 of the 2021 IATA Dangerous Goods regulations 62nd Edition may be transported and applicable U.S. DOT regulations for the safe transport of Lithium-ion Battery.

Rechargeable Li-ion Battery was protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit;

Cell and batteries offered for transport must be packed in inner packaging's that completely enclose the cell or battery; to provide protection from damage or compression to the batteries, the inner packaging's must be placed in a strong rigid outer packaging;

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking. The materials and pack design shall be chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of moisture.

The package must be handled with care and that a flammability hazard exists if the package is damaged; With regard to transport, the following regulations are cited and considered:

-The International Civil Aviation Organization (ICAO) Technical Instructions.
- The International Air transport Association (IATA) Dangerous Goods Regulations.
UN number of lithium battery: UN3480 or UN3481;
UN Proper shipping name/Description (technical name): Lithium ion batteries & Lithium ion batteries contained in equipment & Lithium ion batteries packed with equipment;

The International Maritime Dangerous Goods Code 2018 Edition (Amdt.39-18)
For lithium-ion batteries by sea, provided that packaging is strong and prevent the products from short-circuit.
UN number of lithium battery: UN3480 or UN3481;
UN Proper shipping name/Description (technical name): Lithium ion batteries & Lithium ion batteries contained in equipment & Lithium ion batteries packed with equipment;
Special Provision: International maritime dangerous goods code (IMDG) 188, 230, 310, 348, 957;
- The US Hazardous Materials Regulation (HMR) pursuant to a final rule issued by RSPA

- The Office of Hazardous Materials Safety within the US Department of Transportations' (DOT) Research and Special Programs Administration (RSPA)

**Note: Batteries weight in the package < 5kg(By air, Batteries packed with equipment).**

**Note: Batteries weight in the package < 5kg(By air, Batteries installed in equipment).**

## Section 15 - Regulatory Information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

《Dangerous Goods Regulation》(DGR)

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《Intermational Maritime Dangerous Goods》(IMDG)

《Occupational Ssfety and Health Act》(TSCA)

《Toxic Subtances Control Act》(CFR)

《Code of Federal Regulations》(CFR)

《Technical Instructions for the Safe Transport of Dangerous Goods》

《California Proposition 65》

《Superfund Amendments and Reauthorization Act Title Ⅲ (302/311/312/313)》 (SARA)

In accordance with all Federal. State and laws.

## Section 16 - Other Information

Issue Time: Technical department Modification record: Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the

above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy

or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials

may present unknown hazards and should be used with caution. lthough certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Other Information:

CAS: (Chemical Abstracts Service);

EC: (European Commission);

ACGIH: (American Conference of Governmental Industrial Hygienists);

NIOSH: (US National Institute for Occupational Safety and Health);

OSHA: (US Occupational Safety and Health);

TLV: (Threshold Limit Value)

TWA: (Time Weighted Average);

STEL: (Short Term Exposure Limit);

PEL: (Permissible Exposure Level);

REL: (Recommended Exposure Limit);

PC-STEL: (Permissible concentration-time weighted average);

PC-TWA: (Permissible concentration-short time exposure limit);

LC50: (Lethal concentration, 50 percent kill);

LD50: (Lethal dose, 50 percent kill);

IARC: (International Agency for Research on Cancer);

EC50: (Median effective concentration);

BCF: (Bioconcentration Factor);

BOD: (Biochemical oxygen demand);

NOEC: (No observed effect concentration);

NTP: (US National Toxicology Program);

RTECS: (Registry of Toxic Effects of Chemical Substances);

IATA: (International Air Transport Association);

IMDG: (International Maritime Dangerous Goods);

TDG: (Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations);

TOC: (Total Organic Carbon);

TSCA: (Toxic Substances Control Act of USA);

DSL: (the Domestic Substances List of Canada);

NDSL: (the Non-domestic Substances List of Canada

--End of Test Report--