

# SAFETY DATA SHEET

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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

Product Name TIANQIU Carbon Zinc battery R03/AAA (No lead added)

### Other means of identification

Synonyms None

### Recommended use of the chemical and restrictions on use

Recommended Use Carbon Zinc Battery

Uses advised against No information available

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

Supplier Name GUANGZHOU TIANQIU ENTERPRISE CO., LTD.  
Supplier Address 9/F TianQiu Business Building No.16-30, He Yi Rd., San Yuan Li Ave., GuangZhou China  
GUANGZHOU  
GUANDONG  
510410  
CN  
Supplier Phone Number Phone:8620-36322277  
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Contact Phone13825131170  
Supplier Email qd@gztianqiu.com  
Emergency telephone number

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.

|                                           |            |
|-------------------------------------------|------------|
| Acute toxicity - Oral                     | Category 4 |
| Acute toxicity - Inhalation (Gases)       | Category 4 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |



|                                                    |                           |
|----------------------------------------------------|---------------------------|
| Skin corrosion/irritation                          | Category 1 Sub-category B |
| Serious eye damage/eye irritation                  | Category 1                |
| Carcinogenicity                                    | Category 2                |
| Specific target organ toxicity (repeated exposure) | Category 2                |

#### GHS Label elements, including precautionary statements

#### Emergency Overview

|                                                                                                                                                                                                                                                                                      |                   |                       |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------|----------|
| <b>Signal word</b>                                                                                                                                                                                                                                                                   |                   | <b>Danger</b>         |          |
| <b>Hazard Statements</b>                                                                                                                                                                                                                                                             |                   |                       |          |
| Harmful if swallowed                                                                                                                                                                                                                                                                 |                   |                       |          |
| Harmful if inhaled                                                                                                                                                                                                                                                                   |                   |                       |          |
| Causes severe skin burns and eye damage                                                                                                                                                                                                                                              |                   |                       |          |
| Suspected of causing cancer                                                                                                                                                                                                                                                          |                   |                       |          |
| May cause damage to organs through prolonged or repeated exposure                                                                                                                                                                                                                    |                   |                       |          |
|                                                                                                                                                                                                     |                   |                       |          |
| This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance This is a battery. In case of rupture: the above hazards exist. |                   |                       |          |
| <b>Appearance</b>                                                                                                                                                                                                                                                                    | No data available | <b>Physical State</b> | Solid    |
|                                                                                                                                                                                                                                                                                      |                   | <b>Odor</b>           | Odorless |

#### Precautionary Statements - Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Use only outdoors or in a well-ventilated area  
Do not breathe dust/fume/gas/mist/vapors/spray

#### Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician  
Specific treatment (see supplemental first aid instructions on this label)

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER or doctor/physician

#### Skin

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Call a POISON CENTER or doctor/physician if you feel unwell  
Immediately call a POISON CENTER or doctor/physician



#### **Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

Do NOT induce vomiting

#### **Precautionary Statements - Storage**

Store locked up

#### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

#### **Hazards not otherwise classified (HNOC)**

Not applicable

#### **Unknown Toxicity**

17.48% of the mixture consists of ingredient(s) of unknown toxicity

#### **Other information**

Very toxic to aquatic life with long lasting effects

#### **Interactions with Other Chemicals**

Use of alcoholic beverages may enhance toxic effects.

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Chemical Name                 | CAS No    | Weight-% | Trade Secret |
|-------------------------------|-----------|----------|--------------|
| Zinc                          | 7440-66-6 | 15 - 40  | *            |
| Manganese dioxide             | 1313-13-9 | 10 - 30  | *            |
| Graphite                      | 7782-42-5 | 3 - 7    | *            |
| Zinc chloride                 | 7646-85-7 | 3 - 7    | *            |
| Iron                          | 7439-89-6 | 1 - 5    | *            |
| Carbon black                  | 1333-86-4 | 1 - 5    | *            |
| PVC (Chloroethylene, polymer) | 9002-86-2 | 1 - 5    | *            |

\*The exact percentage (concentration) of composition has been withheld as a trade secret

### **4. FIRST AID MEASURES**

#### **First aid measures**

##### **General Advice**

First aid is upon rupture of sealed battery.

##### **Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

##### **Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek immediate medical attention/advice.



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|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b>                         | Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur. |
| <b>Ingestion</b>                          | Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.                                                                                                                                                                                                                                                                                                    |
| <b>Self-protection of the first aider</b> | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).                                                                                                             |

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

#### **Uniform Fire Code**

Corrosive: Other--Solid  
Toxic: Solid  
Oxidizer: Class 1--Solid

### Hazardous Combustion Products

Carbon oxides.

#### **Physical/Chemical Reaction Properties**

No data available.

### Explosion Data

**Sensitivity to Mechanical Impact** No.

**Sensitivity to Static Discharge** No.

### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions** Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

### Environmental Precautions

**Environmental Precautions** Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

### Methods and material for containment and cleaning up

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Do not breathe dust. Avoid generation of dust.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

**Incompatible Products** Acids. Bases. Oxidizing agent.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

### Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---------------|-----------|----------|------------|
|---------------|-----------|----------|------------|



|                                            |                                                                                                |                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                           |
|--------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Zinc<br>7440-66-6                          | STEL: 10 mg/m <sup>3</sup> respirable fraction<br>TWA: 2 mg/m <sup>3</sup> respirable fraction | TWA: 5 mg/m <sup>3</sup> fume<br>TWA: 15 mg/m <sup>3</sup> total dust<br>TWA: 5 mg/m <sup>3</sup> respirable fraction                                                                                                                                                                                                             | IDLH: 500 mg/m <sup>3</sup><br>Ceiling: 15 mg/m <sup>3</sup> dust<br>TWA: 5 mg/m <sup>3</sup> dust and fume<br>STEL: 10 mg/m <sup>3</sup> fume            |
| Manganese dioxide<br>1313-13-9             | TWA: 0.02 mg/m <sup>3</sup> Mn<br>TWA: 0.1 mg/m <sup>3</sup> Mn                                | (vacated) Ceiling: 5 mg/m <sup>3</sup><br>Ceiling: 5 mg/m <sup>3</sup> Mn                                                                                                                                                                                                                                                         | IDLH: 500 mg/m <sup>3</sup> Mn<br>TWA: 1 mg/m <sup>3</sup> Mn<br>STEL: 3 mg/m <sup>3</sup> Mn                                                             |
| Graphite<br>7782-42-5                      | TWA: 2 mg/m <sup>3</sup> respirable fraction all forms except graphite fibers                  | TWA: 15 mg/m <sup>3</sup> total dust synthetic<br>TWA: 5 mg/m <sup>3</sup> respirable fraction synthetic<br>(vacated) TWA: 2.5 mg/m <sup>3</sup> respirable dust natural<br>(vacated) TWA: 10 mg/m <sup>3</sup> total dust synthetic<br>(vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction synthetic<br>TWA: 15 mppcf natural | IDLH: 1250 mg/m <sup>3</sup><br>TWA: 2.5 mg/m <sup>3</sup> respirable dust                                                                                |
| Zinc chloride<br>7646-85-7                 | STEL: 2 mg/m <sup>3</sup> fume<br>TWA: 1 mg/m <sup>3</sup> fume                                | TWA: 1 mg/m <sup>3</sup> fume<br>(vacated) TWA: 1 mg/m <sup>3</sup> fume<br>(vacated) STEL: 2 mg/m <sup>3</sup> fume                                                                                                                                                                                                              | IDLH: 50 mg/m <sup>3</sup> fume<br>TWA: 1 mg/m <sup>3</sup> fume<br>STEL: 2 mg/m <sup>3</sup> fume                                                        |
| Carbon black<br>1333-86-4                  | TWA: 3 mg/m <sup>3</sup> inhalable fraction                                                    | TWA: 3.5 mg/m <sup>3</sup><br>(vacated) TWA: 3.5 mg/m <sup>3</sup>                                                                                                                                                                                                                                                                | IDLH: 1750 mg/m <sup>3</sup><br>TWA: 3.5 mg/m <sup>3</sup><br>TWA: 0.1 mg/m <sup>3</sup> Carbon black in presence of Polycyclic aromatic hydrocarbons PAH |
| PVC (Chloroethylene, polymer)<br>9002-86-2 | TWA: 1 mg/m <sup>3</sup> respirable fraction                                                   | -                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                           |

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately Dangerous to Life or Health

#### Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

#### Appropriate engineering controls

#### Engineering Measures

Showers  
Eyewash stations  
Ventilation systems

#### Individual protection measures, such as personal protective equipment

#### Eye/Face Protection

If there is a risk of contact: Face protection shield.

#### Skin and Body Protection

Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

#### Respiratory Protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use. Do not breathe dust.

## 9. PHYSICAL AND CHEMICAL PROPERTIES



### Physical and Chemical Properties

|                |                          |                |                          |
|----------------|--------------------------|----------------|--------------------------|
| Physical State | Solid                    | Odor           | Odorless                 |
| Appearance     | No data available        | Odor Threshold | No information available |
| Color          | No information available |                |                          |

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks</u> | <u>Method</u> |
|----------------------------------------|-------------------|----------------|---------------|
| pH                                     | No data available | None known     |               |
| Melting / freezing point               | No data available | None known     |               |
| Boiling point / boiling range          | No data available | None known     |               |
| Flash Point                            | No data available | None known     |               |
| Evaporation Rate                       | No data available | None known     |               |
| Flammability (solid, gas)              | No data available | None known     |               |
| Flammability Limit in Air              |                   |                |               |
| Upper flammability limit               | No data available |                |               |
| Lower flammability limit               | No data available |                |               |
| Vapor pressure                         | No data available | None known     |               |
| Vapor density                          | No data available | None known     |               |
| Specific Gravity                       | No data available | None known     |               |
| Water Solubility                       | Negligible        | None known     |               |
| Solubility in other solvents           | No data available | None known     |               |
| Partition coefficient: n-octanol/water | No data available | None known     |               |
| Autoignition temperature               | No data available | None known     |               |
| Decomposition temperature              | No data available | None known     |               |
| Kinematic viscosity                    | No data available | None known     |               |
| Dynamic viscosity                      | No data available | None known     |               |
| Explosive properties                   | No data available |                |               |
| Oxidizing Properties                   | No data available |                |               |

### Other Information

|                            |                   |
|----------------------------|-------------------|
| Softening Point            | No data available |
| VOC Content (%)            | No data available |
| Particle Size              | No data available |
| Particle Size Distribution |                   |

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Hazardous Polymerization

Hazardous polymerization does not occur.

### Conditions to avoid

Exposure to air or moisture over prolonged periods. Excessive heat.

### Incompatible materials

Acids. Bases. Oxidizing agent.

### Hazardous Decomposition Products

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:.

#### Inhalation

Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Harmful by inhalation.

#### Eye Contact

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

#### Skin Contact

Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.

#### Ingestion

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed.



## Component Information

| Chemical Name                  | Oral LD50             | Dermal LD50         | Inhalation LC50 |
|--------------------------------|-----------------------|---------------------|-----------------|
| Manganese dioxide<br>1313-13-9 | = 9000 mg/kg ( Rat )  | -                   | -               |
| Graphite<br>7782-42-5          | > 10000 mg/kg ( Rat ) | -                   | -               |
| Zinc chloride<br>7646-85-7     | = 350 mg/kg ( Rat )   | -                   | -               |
| Iron<br>7439-89-6              | = 984 mg/kg ( Rat )   | -                   | -               |
| Carbon black<br>1333-86-4      | > 15400 mg/kg ( Rat ) | > 3 g/kg ( Rabbit ) | -               |

## Information on toxicological effects

**Symptoms** Erythema (skin redness). Burning. May cause blindness. Coughing and/ or wheezing.

## Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical Name                              | ACGIH | IARC     | NTP | OSHA |
|--------------------------------------------|-------|----------|-----|------|
| Carbon black<br>1333-86-4                  | A3    | Group 2B |     | X    |
| PVC (Chloroethylene, polymer)<br>9002-86-2 |       | Group 3  |     |      |

**ACGIH (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

**IARC (International Agency for Research on Cancer)**

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

X - Present

**Reproductive Toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).

**Chronic Toxicity** Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Contains a known or suspected carcinogen. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse effects on the bone marrow and blood-forming system. Carbon black has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B) by inhalation.

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**Target Organ Effects**

Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Blood. Central Nervous System (CNS). Central Vascular System (CVS). Kidney. Lymphatic System. Cardiovascular system. Liver. Lungs. Pancreas.

**Aspiration Hazard**

No information available.

**Numerical measures of toxicity** **Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)**

1,190.00 mg/kg

**ATEmix (inhalation-gas)**

14,873.00 ppm (4 hr)

**ATEmix (inhalation-dust/mist)**

4.96 mg/l

**ATEmix (inhalation-vapor)**

36.36 ATEmix

## 12. ECOLOGICAL INFORMATION

This product contains a chemical which, although not listed, meets the IMDG criteria for being a severe marine pollutant

### Ecotoxicity

Very toxic to aquatic life with long lasting effects.

| Chemical Name             | Toxicity to Algae                                                                                                           | Toxicity to Fish                                                                                                                                                                                                                                                                                                                                                                                                                                    | Toxicity to Microorganisms | Daphnia Magna (Water Flea)   |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------|
| Zinc<br>7440-66-6         | 96h EC50: 0.11 - 0.271 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.09 - 0.125 mg/L (Pseudokirchneriella subcapitata) | 96h LC50: 2.16 - 3.05 mg/L (Pimephales promelas) 96h LC50: 0.211 - 0.269 mg/L (Pimephales promelas) 96h LC50: = 2.66 mg/L (Pimephales promelas) 96h LC50: = 30 mg/L (Cyprinus carpio) 96h LC50: = 0.45 mg/L (Cyprinus carpio) 96h LC50: = 7.8 mg/L (Cyprinus carpio) 96h LC50: = 3.5 mg/L (Lepomis macrochirus) 96h LC50: = 0.24 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.59 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.41 mg/L (Oncorhynchus mykiss) |                            | 48h EC50: 0.139 - 0.908 mg/L |
| Iron<br>7439-89-6         |                                                                                                                             | 96h LC50: = 13.6 mg/L (Morone saxatilis)                                                                                                                                                                                                                                                                                                                                                                                                            |                            |                              |
| Carbon black<br>1333-86-4 |                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                            | 24h EC50: > 5600 mg/L        |

### Persistence and Degradability

No information available.

### Bioaccumulation

| Chemical Name                  | Log Pow |
|--------------------------------|---------|
| Manganese dioxide<br>1313-13-9 | <0      |

### Other adverse effects

No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

#### **Disposal methods**

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

#### **Contaminated Packaging**

Dispose of contents/containers in accordance with local regulations.

#### **California Hazardous Waste Codes 141**

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical Name              | California Hazardous Waste |
|----------------------------|----------------------------|
| Zinc<br>7440-66-6          | Ignitable powder Toxic     |
| Zinc chloride<br>7646-85-7 | Toxic<br>Corrosive         |

### 14. TRANSPORT INFORMATION

#### DOT

Proper Shipping Name

Hazard Class

Marine Pollutant

NOT REGULATED

NON REGULATED

N/A

This product contains a chemical which, although not listed, meets the IMDG criteria for being a severe marine pollutant

#### TDG

Not regulated

#### MEX

Not regulated

#### ICAO

Not regulated

#### IATA

Proper Shipping Name

Hazard Class

Not regulated

NON REGULATED

N/A

#### IMDG/IMO

Hazard Class

Marine Pollutant

Not regulated

N/A

Product is a marine pollutant according to the criteria set by IMDG/IMO

#### RID

Not regulated

#### ADR

Not regulated

#### ADN

Not regulated



## 15. REGULATORY INFORMATION

### International Inventories

TSCA Complies  
DSL All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

### US Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name                 | CAS No    | Weight-% | SARA 313 - Threshold Values % |
|-------------------------------|-----------|----------|-------------------------------|
| Zinc - 7440-66-6              | 7440-66-6 | 15 - 40  | 1.0                           |
| Manganese dioxide - 1313-13-9 | 1313-13-9 | 10 - 30  | 1.0                           |
| Zinc chloride - 7646-85-7     | 7646-85-7 | 3 - 7    | 1.0                           |

#### SARA 311/312 Hazard Categories

Acute Health Hazard No  
Chronic Health Hazard No  
Fire Hazard No  
Sudden release of pressure hazard No  
Reactive Hazard No

#### CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical Name              | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|----------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Zinc<br>7440-66-6          |                             | X                      | X                         |                            |
| Zinc chloride<br>7646-85-7 | 1000 lb                     | X                      |                           | X                          |

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name              | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ                                        |
|----------------------------|--------------------------|------------------------------------|-------------------------------------------|
| Zinc<br>7440-66-6          | 1000 lb                  |                                    | RQ 454 kg final RQ<br>RQ 1000 lb final RQ |
| Zinc chloride<br>7646-85-7 | 1000 lb                  |                                    | RQ 1000 lb final RQ<br>RQ 454 kg final RQ |

### US State Regulations

#### California Proposition 65

This product contains the following Proposition 65 chemicals.

| Chemical Name            | California Proposition 65 |
|--------------------------|---------------------------|
| Carbon black - 1333-86-4 | Carcinogen                |

#### U.S. State Right-to-Know Regulations

.



| Chemical Name                              | New Jersey | Massachusetts | Pennsylvania | Rhode Island | Illinois |
|--------------------------------------------|------------|---------------|--------------|--------------|----------|
| Zinc<br>7440-66-6                          | X          | X             | X            | X            |          |
| Manganese dioxide<br>1313-13-9             |            |               | X            | X            | X        |
| Graphite<br>7782-42-5                      | X          | X             | X            |              |          |
| Zinc chloride<br>7646-85-7                 | X          | X             | X            | X            |          |
| Carbon black<br>1333-86-4                  | X          | X             | X            |              | X        |
| PVC (Chloroethylene, polymer)<br>9002-86-2 | X          |               |              |              |          |

### International Regulations

#### Mexico

##### National occupational exposure limits

| Component                                  | Carcinogen Status | Exposure Limits                                                       |
|--------------------------------------------|-------------------|-----------------------------------------------------------------------|
| Manganese dioxide<br>1313-13-9 ( 10 - 30 ) |                   | Mexico: TWA= 0.2 mg/m <sup>3</sup>                                    |
| Graphite<br>7782-42-5 ( 3 - 7 )            |                   | Mexico: TWA= 2 mg/m <sup>3</sup>                                      |
| Zinc chloride<br>7646-85-7 ( 3 - 7 )       |                   | Mexico: TWA 1 mg/m <sup>3</sup><br>Mexico: STEL 2 mg/m <sup>3</sup>   |
| Carbon black<br>1333-86-4 ( 1 - 5 )        |                   | Mexico: TWA 3.5 mg/m <sup>3</sup><br>Mexico: STEL 7 mg/m <sup>3</sup> |

Mexico - Occupational Exposure Limits - Carcinogens

#### Canada

##### WHMIS Hazard Class

Non-controlled

## 16. OTHER INFORMATION

|      |                  |                |                   |                                 |
|------|------------------|----------------|-------------------|---------------------------------|
| NFPA | Health Hazards 2 | Flammability 0 | Instability 0     | Physical and Chemical Hazards - |
| HMIS | Health Hazards 0 | Flammability 0 | Physical Hazard 0 | Personal Protection X           |

Prepared By Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

Revision Date 20-Jan-2015  
Revision Note No information available

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet



# SAFETY DATA SHEET

Issuing Date 05-Sep-2017

Revision Date 04-Sep-2017

Revision Number 1

NGHS / English



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## 1. IDENTIFICATION

### Product identifier

Product Name R02P,R6P,R14P,R20P,6F22

### Other means of identification

Product Code(s) 1416207

### Recommended use of the chemical and restrictions on use

Recommended Use Carbon Zinc Battery

Restrictions on use No information available

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

Supplier Identification ChangZhou Anyida Power Technology Co., Ltd

Address ChangZhou Xinbei District TianShan Road No. 60  
Changzhou  
Jiangsu  
213000  
CN

Telephone Phone:0519-83270441

E-mail j10732@163.com

### Emergency telephone number

Company Emergency Phone Number 0519-83270441

## 2. HAZARDS IDENTIFICATION

### Classification

|                                           |                           |
|-------------------------------------------|---------------------------|
| Acute toxicity - Oral                     | Category 4                |
| Acute toxicity - Inhalation (Vapors)      | Category 4                |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4                |
| Skin corrosion/irritation                 | Category 1 Sub-category B |
| Serious eye damage/eye irritation         | Category 1                |



This is a battery. In case of rupture: the above hazards exist.

**Appearance** No information available

**Physical state** Solid

**Odor** No information available

**GHS Label elements, including precautionary statements**

**Danger**

**Hazard statements**

Harmful if swallowed

Harmful if inhaled

Causes severe skin burns and eye damage



**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Immediately call a POISON CENTER or doctor/physician

Specific treatment (see supplemental first aid instructions on this label)

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Immediately call a POISON CENTER or doctor/physician

**Skin**

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

Immediately call a POISON CENTER or doctor/physician

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other information**

Very toxic to aquatic life with long lasting effects.

**Unknown acute toxicity**

91.53 % of the mixture consists of ingredient(s) of unknown toxicity

52.22 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

91.53 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 68.38 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 68.38 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 68.38 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

Not applicable.

#### Mixture

| Chemical name                    | CAS-No     | Percent | Hazardous Material<br>Information Review Act<br>registry number (HMIRA<br>registry #) | Date HMIRA filed and<br>date exemption granted<br>(if applicable) |
|----------------------------------|------------|---------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Zinc                             | 7440-66-6  | 36.82   | -                                                                                     | -                                                                 |
| Manganese dioxide                | 1313-13-9  | 23.15   | -                                                                                     | -                                                                 |
| Zinc chloride                    | 7646-85-7  | 10.94   | -                                                                                     | -                                                                 |
| Ammonium chloride                | 12125-02-9 | 1.89    | -                                                                                     | -                                                                 |
| Iron                             | 7439-89-6  | 1.25    | -                                                                                     | -                                                                 |
| PVC (Chloroethylene,<br>polymer) | 9002-86-2  | 1.11    | -                                                                                     | -                                                                 |
| Copper                           | 7440-50-8  | 1.05    | -                                                                                     | -                                                                 |
| Zinc oxide                       | 1314-13-2  | 0.27    | -                                                                                     | -                                                                 |

### 4. FIRST AID MEASURES

#### First aid measures

##### **General advice**

First aid is upon rupture of sealed battery. Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

##### **Inhalation**

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.

##### **Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

##### **Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

##### **Ingestion**

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

##### **Self-protection of the first aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. See section 8 for more information.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical** The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous Combustion Products** Carbon oxides.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable

respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid generation of dust.

#### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Protect from moisture. Store locked up. Store away from other materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

#### Exposure Limits

| Chemical name                              | ACGIH TLV                                                                                                                  | OSHA PEL                                                                                                                                                                                                                                                                                                                  | NIOSH IDLH                                                                                                                                                                                                                |                            |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Zinc<br>7440-66-6                          | STEL: 10 mg/m <sup>3</sup> respirable fraction<br>TWA: 2 mg/m <sup>3</sup> respirable fraction                             | TWA: 5 mg/m <sup>3</sup> fume<br>TWA: 15 mg/m <sup>3</sup> total dust<br>TWA: 5 mg/m <sup>3</sup> respirable fraction                                                                                                                                                                                                     | IDLH: 500 mg/m <sup>3</sup><br>Ceiling: 15 mg/m <sup>3</sup> dust<br>TWA: 5 mg/m <sup>3</sup> dust and fume<br>STEL: 10 mg/m <sup>3</sup> fume                                                                            |                            |
| Manganese dioxide<br>1313-13-9             | TWA: 0.02 mg/m <sup>3</sup> Mn respirable particulate matter<br>TWA: 0.1 mg/m <sup>3</sup> Mn inhalable particulate matter | (vacated) Ceiling: 5 mg/m <sup>3</sup><br>Ceiling: 5 mg/m <sup>3</sup> Mn                                                                                                                                                                                                                                                 | IDLH: 500 mg/m <sup>3</sup> Mn<br>TWA: 1 mg/m <sup>3</sup> Mn<br>STEL: 3 mg/m <sup>3</sup> Mn                                                                                                                             |                            |
| Zinc chloride<br>7646-85-7                 | STEL: 2 mg/m <sup>3</sup> fume<br>TWA: 1 mg/m <sup>3</sup> fume                                                            | TWA: 1 mg/m <sup>3</sup> fume<br>(vacated) TWA: 1 mg/m <sup>3</sup> fume<br>(vacated) STEL: 2 mg/m <sup>3</sup> fume                                                                                                                                                                                                      | IDLH: 50 mg/m <sup>3</sup> fume<br>TWA: 1 mg/m <sup>3</sup> fume<br>STEL: 2 mg/m <sup>3</sup> fume                                                                                                                        |                            |
| Ammonium chloride<br>12125-02-9            | STEL: 20 mg/m <sup>3</sup> fume<br>TWA: 10 mg/m <sup>3</sup> fume                                                          | (vacated) TWA: 10 mg/m <sup>3</sup> fume<br>(vacated) STEL: 20 mg/m <sup>3</sup> fume                                                                                                                                                                                                                                     | TWA: 10 mg/m <sup>3</sup> fume<br>STEL: 20 mg/m <sup>3</sup> fume                                                                                                                                                         |                            |
| PVC (Chloroethylene, polymer)<br>9002-86-2 | TWA: 1 mg/m <sup>3</sup> respirable particulate matter                                                                     | -                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                           |                            |
| Copper<br>7440-50-8                        | TWA: 0.2 mg/m <sup>3</sup> fume<br>TWA: 1 mg/m <sup>3</sup> Cu dust and mist                                               | TWA: 0.1 mg/m <sup>3</sup> fume<br>TWA: 1 mg/m <sup>3</sup> dust and mist<br>(vacated) TWA: 0.1 mg/m <sup>3</sup> Cu dust, fume, mist                                                                                                                                                                                     | IDLH: 100 mg/m <sup>3</sup> dust, fume and mist<br>IDLH: 100 mg/m <sup>3</sup> Cu dust and mist<br>TWA: 1 mg/m <sup>3</sup> dust and mist<br>TWA: 0.1 mg/m <sup>3</sup> fume<br>TWA: 1 mg/m <sup>3</sup> Cu dust and mist |                            |
| Zinc oxide<br>1314-13-2                    | STEL: 10 mg/m <sup>3</sup> respirable particulate matter<br>TWA: 2 mg/m <sup>3</sup> respirable particulate matter         | TWA: 5 mg/m <sup>3</sup> fume<br>TWA: 15 mg/m <sup>3</sup> total dust<br>TWA: 5 mg/m <sup>3</sup> respirable fraction<br>(vacated) TWA: 5 mg/m <sup>3</sup> fume<br>(vacated) TWA: 10 mg/m <sup>3</sup> total dust<br>(vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction<br>(vacated) STEL: 10 mg/m <sup>3</sup> fume | IDLH: 500 mg/m <sup>3</sup><br>Ceiling: 15 mg/m <sup>3</sup> dust<br>TWA: 5 mg/m <sup>3</sup> dust and fume<br>STEL: 10 mg/m <sup>3</sup> fume                                                                            |                            |
| Chemical name                              | Alberta                                                                                                                    | British Columbia                                                                                                                                                                                                                                                                                                          | Ontario TWA/EV                                                                                                                                                                                                            | Quebec                     |
| Manganese dioxide<br>1313-13-9             | TWA: 0.2 mg/m <sup>3</sup>                                                                                                 | TWA: 0.2 mg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                | TWA: 0.02 mg/m <sup>3</sup><br>TWA: 0.1 mg/m <sup>3</sup>                                                                                                                                                                 | TWA: 0.2 mg/m <sup>3</sup> |
| Zinc chloride<br>7646-85-7                 | TWA: 1 mg/m <sup>3</sup><br>STEL: 2 mg/m <sup>3</sup>                                                                      | TWA: 1 mg/m <sup>3</sup><br>STEL: 2 mg/m <sup>3</sup>                                                                                                                                                                                                                                                                     | TWA: 1 mg/m <sup>3</sup><br>STEL: 2 mg/m <sup>3</sup>                                                                                                                                                                     | TWA: 1 mg/m <sup>3</sup>   |
| Ammonium chloride                          | TWA: 10 mg/m <sup>3</sup>                                                                                                  | TWA: 10 mg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                 | TWA: 10 mg/m <sup>3</sup>                                                                                                                                                                                                 | TWA: 10 mg/m <sup>3</sup>  |

|                                            |                                                        |                                                        |                                                        |                                                                                     |
|--------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------|
| 12125-02-9                                 | STEL: 20 mg/m <sup>3</sup>                             | STEL: 20 mg/m <sup>3</sup>                             | STEL: 20 mg/m <sup>3</sup>                             | STEL: 20 mg/m <sup>3</sup>                                                          |
| PVC (Chloroethylene, polymer)<br>9002-86-2 |                                                        | TWA: 1 mg/m <sup>3</sup>                               | TWA: 1 mg/m <sup>3</sup>                               |                                                                                     |
| Copper<br>7440-50-8                        | TWA: 0.2 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup> | TWA: 1 mg/m <sup>3</sup><br>TWA: 0.2 mg/m <sup>3</sup> | TWA: 0.2 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup> | TWA: 0.2 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup>                              |
| Zinc oxide<br>1314-13-2                    | TWA: 2 mg/m <sup>3</sup><br>STEL: 10 mg/m <sup>3</sup> | TWA: 2 mg/m <sup>3</sup><br>STEL: 10 mg/m <sup>3</sup> | TWA: 2 mg/m <sup>3</sup><br>STEL: 10 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup><br>TWA: 5 mg/m <sup>3</sup><br>STEL: 10 mg/m <sup>3</sup> |

**Other Exposure Guidelines**

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls****Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Face protection shield.

**Hand protection**

Wear suitable gloves. Impervious gloves.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

**Respiratory protection**

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapors/spray.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical and Chemical Properties****Physical state**

Solid

**Appearance**

No information available

**Odor**

No information available

**Color**

No information available

**Odor Threshold**

No information available

**Property****Values****Remarks Method****pH**

No data available

None known

**Melting / freezing point**

No data available

None known

**Boiling point / boiling range**

No data available

None known

**Flash Point**

No data available

None known

**Evaporation Rate**

No data available

None known

**Flammability (solid, gas)**

No data available

None known

**Flammability Limit in Air**

No data available

None known

**Upper flammability limit**

No data available

**Lower flammability limit**

No data available

**Vapor pressure**

No data available

None known

|                                        |                    |            |
|----------------------------------------|--------------------|------------|
| Vapor density                          | No data available  | None known |
| Relative density                       | No data available  | None known |
| Water Solubility                       | Insoluble in water |            |
| Solubility(ies)                        | No data available  | None known |
| Partition coefficient: n-octanol/water | No data available  | None known |
| Autoignition temperature               | No data available  | None known |
| Decomposition temperature              | No data available  | None known |
| Kinematic viscosity                    | No data available  | None known |
| Dynamic viscosity                      | No data available  | None known |

**Other Information**

|                            |                          |
|----------------------------|--------------------------|
| Explosive properties       | No information available |
| Oxidizing properties       | No information available |
| Softening Point            | No information available |
| Molecular Weight           | No information available |
| VOC Content (%)            | No information available |
| Liquid Density             | No information available |
| Bulk Density               | No information available |
| Particle Size              | No information available |
| Particle Size Distribution | No information available |

## 10. STABILITY AND REACTIVITY

|                                    |                                                                     |
|------------------------------------|---------------------------------------------------------------------|
| Reactivity                         | No information available.                                           |
| Chemical stability                 | Stable under normal conditions.                                     |
| Possibility of Hazardous Reactions | None under normal processing.                                       |
| Hazardous Polymerization           | Hazardous polymerization does not occur.                            |
| Conditions to avoid                | Exposure to air or moisture over prolonged periods. Excessive heat. |
| Incompatible materials             | Acids. Bases. Oxidizing agent.                                      |
| Hazardous Decomposition Products   | Carbon oxides.                                                      |

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Information</b> | Product does not present an acute toxicity hazard based on known or supplied information<br>In case of rupture:                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Inhalation</b>          | Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Harmful by inhalation. |
| <b>Eye contact</b>         | Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.                                                                                                                                                                                                                                                                |
| <b>Skin contact</b>        | Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.                                                                                                                                                                                                                                                                                                                                                                                              |

**Ingestion**

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

**Information on toxicological effects****Symptoms**

Redness. Burning. May cause blindness. Coughing and/ or wheezing.

**Numerical measures of toxicity****Acute Toxicity**

The following values are calculated based on chapter 3.1 of the GHS document .

|                                      |               |
|--------------------------------------|---------------|
| <b>ATEmix (oral)</b>                 | 811.00 mg/kg  |
| <b>ATEmix (inhalation-gas)</b>       | 6,146.00 mg/L |
| <b>ATEmix (inhalation-dust/mist)</b> | 2.05 mg/L     |
| <b>ATEmix (inhalation-vapor)</b>     | 15.00 mg/L    |

**Unknown acute toxicity**

91.53 % of the mixture consists of ingredient(s) of unknown toxicity

52.22 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

91.53 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

68.38 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

68.38 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

68.38 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

| Chemical name     | Oral LD50            | Dermal LD50 | Inhalation LC50 |
|-------------------|----------------------|-------------|-----------------|
| Manganese dioxide | = 9000 mg/kg ( Rat ) | -           | -               |
| Zinc chloride     | = 1100 mg/kg ( Rat ) | -           | -               |
| Ammonium chloride | = 1650 mg/kg ( Rat ) | -           | -               |
| Iron              | = 984 mg/kg ( Rat )  | -           | -               |
| Zinc oxide        | > 5000 mg/kg ( Rat ) | -           | -               |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Skin corrosion/irritation**

Classification based on data available for ingredients. Causes burns.

**Serious eye damage/eye irritation**

Classification based on data available for ingredients. Risk of serious damage to eyes. Causes burns.

**Respiratory or skin sensitization**

No information available.

**Germ cell mutagenicity**

No information available.

**Carcinogenicity**

No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name                              | ACGIH | IARC    | NTP | OSHA |
|--------------------------------------------|-------|---------|-----|------|
| PVC (Chloroethylene, polymer)<br>9002-86-2 | -     | Group 3 | -   | -    |

**IARC (International Agency for Research on Cancer)**

Group 3 - Not Classifiable as to Carcinogenicity in Humans

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## 12. ECOLOGICAL INFORMATION

**Marine Pollutant** This product contains a chemical which is listed as a severe marine pollutant according to DOT

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

| Chemical name     | Toxicity to Algae                                                                                                                     | Toxicity to Fish                                                                                                                                                                                                                                                                                                                                                                                                                                                | Toxicity to Microorganisms | Daphnia Magna (Water Flea)   |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------|
| Zinc              | 96h EC50: 0.11 - 0.271 mg/L<br>(Pseudokirchneriella subcapitata) 72h EC50: 0.09 - 0.125 mg/L<br>(Pseudokirchneriella subcapitata)     | 96h LC50: = 3.5 mg/L (Lepomis macrochirus)<br>96h LC50: = 7.8 mg/L (Cyprinus carpio) 96h LC50: = 0.24 mg/L (Oncorhynchus mykiss)<br>96h LC50: = 0.59 mg/L (Oncorhynchus mykiss)<br>96h LC50: = 0.41 mg/L (Oncorhynchus mykiss)<br>96h LC50: 0.211 - 0.269 mg/L (Pimephales promelas) 96h LC50: = 2.66 mg/L (Pimephales promelas) 96h LC50: = 30 mg/L (Cyprinus carpio) 96h LC50: = 0.45 mg/L (Cyprinus carpio) 96h LC50: 2.16 - 3.05 mg/L (Pimephales promelas) | -                          | 48h EC50: 0.139 - 0.908 mg/L |
| Ammonium chloride | -                                                                                                                                     | 96h LC50: = 209 mg/L (Cyprinus carpio) 24h LC50: = 725 mg/L (Lepomis macrochirus)                                                                                                                                                                                                                                                                                                                                                                               | -                          | 24h LC50: = 202 mg/L         |
| Iron              | -                                                                                                                                     | 96h LC50: = 13.6 mg/L (Morone saxatilis)                                                                                                                                                                                                                                                                                                                                                                                                                        | -                          | -                            |
| Copper            | 96h EC50: 0.031 - 0.054 mg/L<br>(Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L<br>(Pseudokirchneriella subcapitata) | 96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 mg/L                                                                                                                                                           | -                          | 48h EC50: = 0.03 mg/L        |

|  |  |                                                                |  |  |
|--|--|----------------------------------------------------------------|--|--|
|  |  | (Cyprinus carpio) 96h<br>LC50: = 0.8 mg/L<br>(Cyprinus carpio) |  |  |
|--|--|----------------------------------------------------------------|--|--|

**Persistence and Degradability** No information available.

**Bioaccumulation**

| Chemical name     | Log Pow |
|-------------------|---------|
| Manganese dioxide | <0      |

**Mobility** No information available.

**Other adverse effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**California Hazardous Waste Codes** 141

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical name              | California Hazardous Waste |
|----------------------------|----------------------------|
| Zinc<br>7440-66-6          | Ignitable powder Toxic     |
| Zinc chloride<br>7646-85-7 | Toxic<br>Corrosive         |
| Copper<br>7440-50-8        | Toxic                      |
| Zinc oxide<br>1314-13-2    | Toxic                      |

### 14. TRANSPORT INFORMATION

**DOT**  
**Proper Shipping Name** NOT REGULATED  
**Hazard Class** NON-REGULATED  
**Marine Pollutant** N/A  
 This product contains a chemical which is listed as a severe marine pollutant according to DOT

**TDG**  
**Marine Pollutant** Not regulated  
 This product contains a chemical which is listed as a severe marine pollutant according to TDG.

**MEX** Not regulated

**ICAO** Not regulated



|                             |                                                                                              |
|-----------------------------|----------------------------------------------------------------------------------------------|
| <b>IATA</b>                 | Not regulated                                                                                |
| <b>Proper Shipping Name</b> | NON REGULATED                                                                                |
| <b>Hazard Class</b>         | N/A                                                                                          |
| <b>IMDG/IMO</b>             | Not regulated                                                                                |
| <b>Hazard Class</b>         | N/A                                                                                          |
| <b>Marine Pollutant</b>     | This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO |
| <b>RID</b>                  | Not regulated                                                                                |
| <b>ADR</b>                  | Not regulated                                                                                |
| <b>ADN</b>                  | Not regulated                                                                                |

## 15. REGULATORY INFORMATION

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

#### International Regulations

**Ozone-depleting substances (ODS)** Not applicable

**Persistent Organic Pollutants** Not applicable

**Export Notification requirements** Not applicable

#### International Inventories

|                      |                                                   |
|----------------------|---------------------------------------------------|
| <b>TSCA</b>          | Contact supplier for inventory compliance status. |
| <b>DSL/NDSL</b>      | Contact supplier for inventory compliance status. |
| <b>EINECS/ELINCS</b> | Contact supplier for inventory compliance status. |
| <b>ENCS</b>          | Contact supplier for inventory compliance status. |
| <b>KECL</b>          | Contact supplier for inventory compliance status. |
| <b>PICCS</b>         | Contact supplier for inventory compliance status. |
| <b>AICS</b>          | Contact supplier for inventory compliance status. |

#### Legend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

### US Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical name                  | CAS-No     | Percent | SARA 313 - Threshold Values % |
|--------------------------------|------------|---------|-------------------------------|
| Zinc - 7440-66-6               | 7440-66-6  | 36.82   | 1.0                           |
| Manganese dioxide - 1313-13-9  | 1313-13-9  | 23.15   | 1.0                           |
| Zinc chloride - 7646-85-7      | 7646-85-7  | 10.94   | 1.0                           |
| Ammonium chloride - 12125-02-9 | 12125-02-9 | 1.89    | 1.0                           |
| Copper - 7440-50-8             | 7440-50-8  | 1.05    | 1.0                           |
| Zinc oxide - 1314-13-2         | 1314-13-2  | 0.27    | 1.0                           |

|                                   |    |
|-----------------------------------|----|
| Acute Health Hazard               | No |
| Chronic Health Hazard             | No |
| Fire Hazard                       | No |
| Sudden release of pressure hazard | No |
| Reactive Hazard                   | No |

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical name                   | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Zinc<br>7440-66-6               |                             | X                      | X                         |                            |
| Zinc chloride<br>7646-85-7      | 1000 lb                     | X                      |                           | X                          |
| Ammonium chloride<br>12125-02-9 | 5000 lb                     |                        |                           | X                          |
| Copper<br>7440-50-8             |                             | X                      | X                         |                            |
| Zinc oxide<br>1314-13-2         |                             | X                      |                           |                            |

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical name                   | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ                                         |
|---------------------------------|--------------------------|------------------------------------|--------------------------------------------|
| Zinc<br>7440-66-6               | 1000 lb                  |                                    | RQ 454 kg final RQ<br>RQ 1000 lb final RQ  |
| Zinc chloride<br>7646-85-7      | 1000 lb                  |                                    | RQ 1000 lb final RQ<br>RQ 454 kg final RQ  |
| Ammonium chloride<br>12125-02-9 | 5000 lb                  |                                    | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |
| Copper<br>7440-50-8             | 5000 lb                  |                                    | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

This product may contain substances regulated by state right-to-know regulations.

| Chemical name                   | New Jersey | Massachusetts | Pennsylvania | Rhode Island | Illinois |
|---------------------------------|------------|---------------|--------------|--------------|----------|
| Zinc<br>7440-66-6               | X          | X             | X            | X            |          |
| Manganese dioxide<br>1313-13-9  | X          |               | X            | X            | X        |
| Zinc chloride<br>7646-85-7      | X          | X             | X            | X            |          |
| Ammonium chloride<br>12125-02-9 | X          | X             | X            | X            |          |
| PVC (Chloroethylene, polymer)   | X          |               |              |              |          |



|                         |   |   |   |   |   |
|-------------------------|---|---|---|---|---|
| 9002-86-2               |   |   |   |   |   |
| Copper<br>7440-50-8     | X | X | X | X | X |
| Zinc oxide<br>1314-13-2 | X | X | X | X |   |

## 16. OTHER INFORMATION

|             |                         |                       |                           |                                           |
|-------------|-------------------------|-----------------------|---------------------------|-------------------------------------------|
| <b>NFPA</b> | <b>Health hazards</b> 1 | <b>Flammability</b> 0 | <b>Instability</b> 0      | <b>Physical and Chemical Properties -</b> |
| <b>HMIS</b> | <b>Health hazards</b> 0 | <b>Flammability</b> 0 | <b>Physical hazards</b> 0 | <b>Personal Protection</b> X              |

**Prepared By** Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Issuing Date** 05-Sep-2017

**Revision Date** 04-Sep-2017

**Revision Note** No information available

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**

# Article Information Sheet

Product name: Carbon Zinc Battery

Printing date: 2021.12.30

Nom du produit: pile au carbone-zinc

Date d'impression: 2021.12.30

## Article Information Sheet (AIS)

This Article Information Sheet (AIS) provides relevant battery information to retailers, consumers, OEMs and other users requesting a GHS - compliant SDS. Articles, such as batteries, are exempt from GHS SDS classification criteria. The GHS criteria is not designed or intended to be used to classify the physical, health and environmental hazards of an article. Branded consumer batteries are defined as electro - technical devices. The design, safety, manufacture, and qualification of Energizer branded consumer batteries follow ANSI and IEC battery standards.

### 1. DOCUMENT INFORMATION

|              |                               |
|--------------|-------------------------------|
| Product name | Carbon Zinc-Manganese Dioxide |
| Model        | R03 (AAA)                     |
| Issue Date   | 2021-12-30                    |

### 2. COMPANY INFORMATION

|                     |                                                                                       |
|---------------------|---------------------------------------------------------------------------------------|
| Company name(China) | Guangdong Liwang New Energy Co.,Ltd.                                                  |
| Address:            | No.10, Liantang Jiao Road Two,Tangxia Town,Dongguan City,Guangdong Province,P.R.China |
| E-mail:             | qa1@liwangbattery.com                                                                 |
| Telephone:          | +86-13902600527                                                                       |

### 3. ARTICLE INFORMATION

|             |                                       |
|-------------|---------------------------------------|
| Description | Carbon Zinc-Manganese Dioxide Battery |
| Use         | carbon zinc battery                   |
| Brand       | ----                                  |
| Image       | ----                                  |

## Article Feuille d'information (AIS)

Cette fiche d'information Article (AIS) fournit des informations sur la batterie correspondant aux détaillants, aux consommateurs, aux OEM et aux autres utilisateurs qui demandent un SDS SGH-conforme. Les articles, tels que les piles, sont exemptés de critères de classification SGH SDS. Les critères du SGH ne sont pas conçus ou destinés à être utilisés pour classer les risques physiques, la santé et l'environnement d'un article. batteries de consommation de marque sont définies comme des dispositifs électro-technique. La conception, la sécurité, la fabrication, et la qualification des batteries de consommation de marque Energizer sont conformes aux normes de la batterie ANSI et IEC.

### 1. DOCUMENT D'INFORMATION

|                 |                                   |
|-----------------|-----------------------------------|
| Produit Nom     | Carbone Zinc-Dioxyde de Manganèse |
| Modèle          | R03 (AAA)                         |
| Date d'émission | 2021-12-30                        |

### 2. INFORMATIONS SUR LA SOCIÉTÉ

|                     |                                                                                       |
|---------------------|---------------------------------------------------------------------------------------|
| Nom de l'entreprise | Guangdong Liwang New Energy Co.,Ltd.                                                  |
| (Chine)             |                                                                                       |
| Adresse:            | No.10, Liantang Jiao Road Two,Tangxia Town,Dongguan City,Guangdong Province,P.R.China |
| Email:              | qa1@liwangbattery.com                                                                 |
| Téléphone:          | +86-13902600527                                                                       |

### 3. ARTICLE D'INFORMATION

|                |                                   |
|----------------|-----------------------------------|
| La description | Carbone Zinc-Dioxyde de Manganèse |
| Utilisation    | pile au carbone-zinc              |
| Marque         | ----                              |
| Image          | ----                              |

## Article Information Sheet

Product name: Carbon Zinc Battery

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Date d'impression: 2021.12.30

### 4. ARTICLE CONSTRUCTION

**IMPORTANT NOTE: The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.**

| Chemical name                              | CAS No.    | Concentration(%) |
|--------------------------------------------|------------|------------------|
| Manganese dioxide                          | 1313-13-9  | 37               |
| Zinc                                       | 7440-66-6  | 33               |
| Graphite                                   | 7782-42-5  | 10               |
| Water                                      | 7732-18-5  | 14.2             |
| Ammonium chloride                          | 12125-02-9 | 0.6              |
| Iron                                       | 7439-89-6  | 2                |
| Polypropylene                              | 9003-07-0  | 1.5              |
| Zinc chloride                              | 7646-85-7  | 1.2              |
| Slimes and Sludges, papermaking, secondary | 68188-15-8 | 0.5              |

### 5. HEALTH AND SAFETY

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ingestion:    | Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.                                                                                                                                                                                                                                                                                                    |
| Inhalation:   | Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur. |
| Skin contact: | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. May cause an allergic skin reaction.                                                                                                                                                                                                                                                                                                         |

## Fiche d'information Article

### 4. ARTICLE CONSTRUCTION

**REMARQUE IMPORTANTE: La batterie ne doit pas être ouverte ou brûlée. L'exposition aux ingrédients contenus dans leurs produits ou de combustion pourrait être nocif.**

| Nom chimique                               | N ° CAS.   | Concentration(%) |
|--------------------------------------------|------------|------------------|
| Dioxyde de manganèse                       | 1313-13-9  | 37               |
| Zinc                                       | 7440-66-6  | 33               |
| Graphite                                   | 7782-42-5  | 10               |
| L'eau                                      | 7732-18-5  | 14.2             |
| Chlorure d'ammonium                        | 12125-02-9 | 0.6              |
| Fer                                        | 7439-89-6  | 2                |
| Polypropylène                              | 9003-07-0  | 2                |
| Chlorure de zinc                           | 7646-85-7  | 1.2              |
| Slimes and Sludges, papermaking, secondary | 68188-15-8 | 0.5              |

### 5. SANTÉ ET SÉCURITÉ

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ingestion:  | Ne pas faire vomir. Se rincer la bouche et boire beaucoup d'eau. Ne portez rien à la bouche d'une personne inconsciente. Appeler un centre de contrôle médecin ou de poison immédiatement.                                                                                                                                                                                                                                                                                                                                                |
| Inhalation: | À l'air frais. Si la respiration est arrêtée, pratiquer la respiration artificielle. Consulter un médecin immédiatement. Ne pas utiliser le bouche-à-bouche si la victime a ingéré ou inhalé la substance; pratiquer la respiration artificielle à l'aide d'un masque de poche muni d'une valve à une voie ou d'un autre appareil médical approprié. Si la respiration est difficile, (du personnel qualifié devrait) donner de l'oxygène. œdème pulmonaire retardé peut se produire. Consulter un médecin si des symptômes apparaissent. |

## Article Information Sheet

**Product name:** Carbon Zinc Battery

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**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

**Self-protection of the first aider:** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

### 6. FIRE HAZARD & FIREFIGHTING

**Fire Hazard** Batteries may rupture or leak if involved in a fire.

**Extinguishing Media** Use any extinguishing media appropriate for the surrounding area.

**Special hazards arising from the chemical** In case of fire where lithium batteries are present, flood area with water or smother with a Class D fire extinguishant appropriate for lithium metal, such as Lith-X. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended. A smothering agent will extinguish burning lithium batteries.

**Precautions for** Emergency Responders should wear self-contained breathing apparatus. Burning lithium manganese dioxide

**Contact avec la peau:** Laver immédiatement avec du savon et beaucoup d'eau tout en enlevant les vêtements contaminés et les chaussures. Une attention médicale immédiate est nécessaire. Peut provoquer une réaction allergique cutanée.

**Lentilles de contact:** Rincer immédiatement et abondamment avec de l'eau, y compris sous les paupières, pendant au moins 15 minutes. Gardez l'œil ouvert pendant le rinçage. Ne pas frotter les zones touchées. lentilles de contact Retirer, si elle est présente et facile à faire. Continuer à rincer. Consulter un / des conseils médicaux immédiats.

**Auto-protection du secouriste:** Veiller à ce que le personnel médical sont au courant de la matière (s) impliqués, prendre des précautions pour se protéger et prévenir la propagation de la contamination. Éviter tout contact avec la peau, les yeux ou les vêtements. Éviter tout contact direct avec la peau. Utilisez barrière pour donner la respiration artificielle bouche-à-bouche. Utiliser un équipement de protection individuel requis. Porter des vêtements de protection individuelle (voir la section 8).

### 6. RISQUE D'INCENDIE & POMPIERS

**Risque d'incendie** Les piles peuvent se rompre ou fuir si elle est impliquée dans un incendie.

**Moyens d'extinction** Utilisez tous les moyens d'extinction appropriés pour la région environnante.

## Article Information Sheet

Product name: Carbon Zinc Battery

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fire-fighters batteries produce toxic and corrosive lithium hydroxide fumes.

### 7. HANDLING AND STORAGE

**Storage** Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life. In locations that handle large quantities of lithium batteries, such as warehouses, lithium batteries should be isolated from unnecessary combustibles.

**Handling** Avoid mechanical and electrical abuse. Do not short circuit or install incorrectly. Batteries may rupture or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions.

**Spills of Large Quantities Batteries (unpacked)** Notify spill personnel of large spills. Irritating and flammable vapors may be released from leaking or ruptured batteries. Spread batteries apart to stop shorting. Eliminate all ignition sources. Evacuate area and allow vapors to dissipate. Clean-up personnel should wear appropriate PPE to avoid eye and skin contact and inhalation of vapors or fumes. Increase ventilation. Carefully collect batteries and place in appropriate container for disposal. Remove any spilled liquid with absorbent material and contain for disposal.

### 8. DISPOSAL CONSIDERATIONS

Dispose of used (or excess) batteries in compliance with federal, state/provincial and local regulations. Do not accumulate large quantities of used batteries for disposal as accumulations could cause batteries to

**Dangers particuliers résultant de la substance chimique** En cas d'incendie où des batteries au lithium sont présents, zone inondable avec de l'eau ou avec un ÉTOUFFER approprié incendie Classe d'extinction D pour le métal de lithium, comme Lith-X. L'eau ne peut pas éteindre les piles qui brûlent mais refroidir les batteries adjacentes et contrôler la propagation du feu. Les piles qui brûlent va se brûler. Pratiquement tous les feux impliquant des piles au lithium peuvent être contrôlés par les inondations avec de l'eau. Cependant, le contenu de la batterie réagiront avec l'eau et sous forme d'hydrogène gazeux. Dans un espace confiné, le gaz d'hydrogène peut former un mélange explosif. Dans cette situation, les agents étouffants sont recommandés. Un agent étouffant éteindra la combustion des batteries au lithium.

**Précautions à prendre pour les pompiers** Équipe d'intervention doivent porter un appareil respiratoire autonome. La combustion des piles de dioxyde de manganèse au lithium produisent toxique et corrosif fumées lithium hydroxyde.

### 7. MANIPULATION ET STOCKAGE

**Espace de rangement** Conserver dans un endroit frais et bien ventilé. Les températures élevées peuvent entraîner dans la vie de la batterie raccourcie. Dans les endroits qui traitent de grandes quantités de Les piles au lithium, tels que les entrepôts, les batteries au lithium doivent être isolés à partir de combustibles inutilisés.

**Manipulation** Éviter les abus mécaniques et électriques. Ne pas court-circuiter ou installer correctement. Les piles peuvent se rompre ou de ventilation si elles sont démontées, écrasées, rechargées ou exposé à une forte températures. Installez les piles conformément aux instructions du fabricant.

## Article Information Sheet

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short-circuit. Do not incinerate. In countries, such as Canada and the EU, where there are regulations for the collection and recycling of batteries, consumers should dispose of their used batteries into the collection network at municipal depots and retailers. They should not dispose of batteries with household trash.

### 9. Transport information

|                      |                                                                         |
|----------------------|-------------------------------------------------------------------------|
| DOT                  | NOT REGULATED                                                           |
| Proper Shipping Name | NON REGULATED                                                           |
| Hazard Class         | N/A                                                                     |
| TDG                  | Not regulated                                                           |
| MEX                  | Not regulated                                                           |
| ICAO                 | Not regulated                                                           |
| IATA                 | Not regulated                                                           |
| Proper Shipping Name | NON REGULATED                                                           |
| Hazard Class         | N/A                                                                     |
| IMDG/IMO             | Not regulated                                                           |
| Hazard Class         | N/A                                                                     |
| Marine Pollutant     | Product is a marine pollutant according to the criteria set by IMDG/IMO |
| RID                  | Not regulated                                                           |
| ADR                  | Not regulated                                                           |
| ADN                  | Not regulated                                                           |

### 10. REGULATORY INFORMATION

*(a) Safety, health and environmental regulations specific for the product in question*

| CAS No.    | USA<br>TSCA | EU<br>EINECS | Japan<br>ENCS | Korea<br>ECL | China<br>IECSC | Canada<br>DSL |
|------------|-------------|--------------|---------------|--------------|----------------|---------------|
| 1313-13-9  | Listed      | Listed       | Listed        | Listed       | Listed         | Listed        |
| 7440-66-6  | Listed      | Listed       | Not listed    | Listed       | Listed         | Listed        |
| 7782-42-5  | Not listed  | Listed       | Listed        | Listed       | Listed         | Not listed    |
| 7732-18-5  | Listed      | Listed       | Listed        | Listed       | Listed         | Listed        |
| 12125-02-9 | Not listed  | Listed       | Listed        | Listed       | Listed         | Not listed    |

## Fiche d'information Article

Déversements de grandes quantités de Batteries (non emballés) Informer le personnel de déversement de grands déversements. Irritant et vapeurs inflammables peuvent être libérés de fuites ou les piles endommagées. piles écartez pour arrêter les courts-circuits. éliminer tous les sources d'allumage. Évacuer la zone et laisser les vapeurs se dissipent. Le personnel de nettoyage devrait porter des EPI appropriés pour éviter les yeux et contact avec la peau et l'inhalation des vapeurs ou fumées. Augmenter la ventilation. batteries cueillent et les placer dans un récipient approprié pour disposition. Retirez tout liquide déversé avec une matière absorbante et contiennent pour l'élimination.

### 8. CONSIDERATIONS RELATIVES À L'ÉLIMINATION

Jetez les piles usagées (ou excédent) conformément aux règlements fédéraux, provinciaux / provinciaux et locaux. Ne pas accumuler de grandes quantités de piles usagées pour l'élimination comme accumulations pourraient provoquer un court-circuit. Ne pas incinérer. Dans les pays, comme le Canada et l'Union européenne, où il existe des règlements pour la collecte et le recyclage des batteries, les consommateurs devraient disposer de leurs piles usagées dans le réseau de collecte dans les dépôts municipaux et les détaillants. Ils ne doivent pas jeter les piles avec les ordures ménagères.

### 9. Informations de transport

POINT NON RÉGLEMENTÉ  
Nom d'expédition NON RÉGLEMENTÉ  
Classe de danger N / A  
TMD Non réglementé  
MEX Non réglementé  
OACI Non réglementé

## Article Information Sheet

Product name: Carbon Zinc Battery

Printing date: 2021.12.30

Nom du produit: pile au carbone-zinc

Date d'impression: 2021.12.30

|            |            |            |        |        |        |            |
|------------|------------|------------|--------|--------|--------|------------|
| 7439-89-6  | Not listed | Listed     | Listed | Listed | Listed | Not listed |
| 9003-07-0  | Listed     | Not listed | Listed | Listed | Listed | Listed     |
| 7646-85-7  | Listed     | Listed     | Listed | Listed | Listed | Listed     |
| 68188-15-8 | Listed     | Listed     | Listed | Listed | Listed | Listed     |

### 11. OTHER INFORMATION

TSCA: Toxic Substances Control Act, The American chemical inventory.

DSL Domestic Substances List

EINECS: European Inventory of Existing Commercial chemical Substances

ENCS Japanese Existing and New Chemical Substances

ECL: Existing Chemicals List, the Korean chemical inventory.

IECSC: Inventory of existing chemical substances in China.

Because all of our batteries are defined as "articles", they are exempted from the requirements of the Hazard Communication Standard. The information in this AIS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This AIS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this AIS should make independent judgment for the applicability of this AIS under special conditions. In these special cases, we do not assume responsibility for the damage.

----- End of the AIS -----

## Fiche d'information Article

IATA Non réglementé

Nom d'expédition NON RÉGLEMENTÉ

Classe de danger N / A

IMDG / IMO Non réglementé

Classe de danger N / A

Polluant marin Le produit est un polluant marin selon les critères fixés par IMDG / IMO

DÉBARRASSER Non réglementé

ADR Non réglementé

ADN Non réglementé

### 10. INFORMATIONS RÉGLEMENTAIRES

*(A) la sécurité, de santé et de l'environnement spécifique pour le produit en question*

| N ° CAS.   | Etats-Unis<br>TSCA | UE<br>Einecs | Japon<br>ENCS | Corée<br>ECL | Chine<br>IECSC | Canada<br>DSL |
|------------|--------------------|--------------|---------------|--------------|----------------|---------------|
| 1313-13-9  | Listed             | Listed       | Listed        | Listed       | Listed         | Listed        |
| 7440-66-6  | Listed             | Listed       | Non listé     | Listed       | Listed         | Listed        |
| 7782-42-5  | Non listé          | Listed       | Listed        | Listed       | Listed         | Non listé     |
| 7732-18-5  | Listed             | Listed       | Listed        | Listed       | Listed         | Listed        |
| 12125-02-9 | Non listé          | Listed       | Listed        | Listed       | Listed         | Non listé     |
| 7439-89-6  | Non listé          | Listed       | Listed        | Listed       | Listed         | Non listé     |
| 9003-07-0  | Listed             | Non listé    | Listed        | Listed       | Listed         | Listed        |
| 7646-85-7  | Listed             | Listed       | Listed        | Listed       | Listed         | Listed        |
| 68188-15-8 | Listed             | Listed       | Listed        | Listed       | Listed         | Listed        |

### 11. LES AUTRES INFORMATIONS

TSCA: Toxic Substances Control Act, l'inventaire chimique américain.

DSL Liste intérieure

Einecs: Inventaire européen des substances chimiques existantes commerciales

ENCS Existantes et nouvelles substances chimiques japonaises

ECL: Liste des produits chimiques existants, l'inventaire chimique coréenne.

## Article Information Sheet

## Fiche d'information Article

**Product name:** Carbon Zinc Battery

**Printing date:** 2021.12.30

**Nom du produit:** pile au carbone-zinc

**Date d'impression:** 2021.12.30

IECSC: Inventaire des substances chimiques existantes en Chine.  
Parce que toutes nos batteries sont définies comme des « articles », ils sont exemptés des exigences de la norme de communication des risques. Les informations contenues dans ce AIS est fourni tous les pleinement et véritablement les données pertinentes. Cependant, les informations sont fournies sans aucune garantie sur leur extensification absolue et la précision. Cet AIS a été préparé à des mesures préventives de sécurité pour les utilisateurs qui ont obtenu la formation professionnelle. L'utilisateur personnel qui a obtenu ce SIA devrait porter un jugement indépendant pour l'applicabilité de cette AIS dans des conditions particulières. Dans ces cas particuliers, nous n'assumons la responsabilité pour les dommages.

----- Fin de l'AIS -----

# SAFETY DATA SHEET

Issuing Date 31-Jan-2019

Revision Date 31-Jan-2019

Revision Number 2

NGHS / English



The supplier identified below generated this SDS using the UL SDS template. UL did not test, certify, or approve the substance described in this SDS, and all information in this SDS was provided by the supplier or was reproduced from publically available regulatory data sources. UL makes no representations or warranties regarding the completeness or accuracy of the information in this SDS and disclaims all liability in connection with the use of this information or the substance described in this SDS. The layout, appearance and format of this SDS is © 2014 UL LLC. All rights reserved.

## 1. IDENTIFICATION

### Product identifier

Product Name R32 air conditioner

### Other means of identification

Product Code(s) 1500576

### Recommended use of the chemical and restrictions on use

Recommended Use Appliance containing Compressed Gas (not Freon)

Restrictions on use No information available

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

Supplier Identification GD Midea Air-conditioning Equipment Co., Ltd

Address Lingang Road, Beijiao, Shunde  
Foshan  
Guangdong  
528311  
CN

Telephone Phone:13037111672

E-mail zhuangyan.fan@midea.com

### Emergency telephone number

Company Emergency Phone Number 13037111672

## 2. HAZARDS IDENTIFICATION

### Classification

|                      |               |
|----------------------|---------------|
| Flammable gases      | Category 1    |
| Gases under pressure | Liquefied Gas |



**Appearance** No information available**Physical state** Gas**Odor** No information available**GHS Label elements, including precautionary statements****Danger****Hazard statements**

Extremely flammable gas

Contains gas under pressure; may explode if heated

**Precautionary Statements - Prevention**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

**Precautionary Statements - Response****Skin**

Eliminate all ignition sources if safe to do so

**Fire**

Leaking gas fire: Do not extinguish, unless leak can be stopped safely

**Precautionary Statements - Storage**

Store in well-ventilated place

Protect from sunlight. Store in a well-ventilated place

**Other information****Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity

100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

| Chemical name      | CAS No. | Weight-% | Hazardous Material<br>Information Review Act<br>registry number (HMIRA<br>registry #) | Date HMIRA filed and<br>date exemption granted<br>(if applicable) |
|--------------------|---------|----------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Methylene fluoride | 75-10-5 | 100      | -                                                                                     | -                                                                 |

#### 4. FIRST AID MEASURES

##### First aid measures

|                                           |                                                                                                                                                                                   |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General advice</b>                     | In case of rupture. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray.                                                                  |
| <b>Inhalation</b>                         | Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If not breathing, give artificial respiration.                                            |
| <b>Eye contact</b>                        | Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Seek immediate medical attention/advice. |
| <b>Skin contact</b>                       | In case of contact with liquefied gas, thaw frosted parts with lukewarm water.                                                                                                    |
| <b>Ingestion</b>                          | Not an expected route of exposure. Call a physician immediately.                                                                                                                  |
| <b>Self-protection of the first aider</b> | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.                                  |

##### Most important symptoms and effects, both acute and delayed

|                 |                           |
|-----------------|---------------------------|
| <b>Symptoms</b> | No information available. |
|-----------------|---------------------------|

##### Indication of any immediate medical attention and special treatment needed

|                           |                                                                                                                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Note to physicians</b> | A patient adversely affected by exposure to this product should not be given adrenaline (epinephrine) or similar heart stimulant since these would increase the risk of cardiac arrhythmias. |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### 5. FIRE-FIGHTING MEASURES

|                                                       |                                                                                                                                    |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>                   | Dry chemical. Carbon dioxide (CO <sub>2</sub> ).                                                                                   |
| <b>Large Fire</b>                                     | CAUTION: Use of water spray when fighting fire may be inefficient.                                                                 |
| <b>Unsuitable extinguishing media</b>                 | DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.                                                                   |
| <b>Specific hazards arising from the chemical</b>     | Ruptured cylinders may rocket. Some may burn, but not ignite readily.                                                              |
| <b>Hazardous Combustion Products</b>                  | Carbon oxides.                                                                                                                     |
| <b>Explosion Data</b>                                 |                                                                                                                                    |
| <b>Sensitivity to Mechanical Impact</b>               | Yes.                                                                                                                               |
| <b>Sensitivity to Static Discharge</b>                | no.                                                                                                                                |
| <b>Special protective equipment for fire-fighters</b> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures



**Personal precautions** Stop leak if you can do it without risk.

**Other Information** Ventilate the area.

**Methods and material for containment and cleaning up**

**Methods for containment** If possible, turn leaking containers so that gas escapes rather than liquid.

**Methods for cleaning up** Do not direct water at spill or source of leak.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Do not breathe vapor or mist. Do not smoke. Use with local exhaust ventilation. Do not puncture or incinerate cans. Do not stick pin or any other sharp object into opening on top of can. Do not breathe dust/fume/gas/mist/vapors/spray.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from sunlight. Keep away from open flames, hot surfaces and sources of ignition.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** No special protective equipment required.

**Skin and body protection** No special protective equipment required.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES



**Physical and Chemical Properties**

|                |                          |
|----------------|--------------------------|
| Physical state | Gas                      |
| Appearance     | No information available |
| Odor           | No information available |
| Color          | No information available |
| Odor Threshold | No information available |

| <u>Property</u>                        | <u>Values</u>            | <u>Remarks</u> | <u>Method</u> |
|----------------------------------------|--------------------------|----------------|---------------|
| pH                                     | No data available        | None known     |               |
| Melting / freezing point               | No data available        | None known     |               |
| Boiling point / boiling range          | No data available        | None known     |               |
| Flash Point                            | No data available        | None known     |               |
| Evaporation Rate                       | No data available        | None known     |               |
| Flammability (solid, gas)              | No data available        | None known     |               |
| Flammability Limit in Air              |                          | None known     |               |
| Upper flammability limit               | No data available        |                |               |
| Lower flammability limit               | No data available        |                |               |
| Vapor pressure                         | No data available        | None known     |               |
| Vapor density                          | No data available        | None known     |               |
| Relative density                       | No data available        | None known     |               |
| Water Solubility                       | No information available |                |               |
| Solubility(ies)                        | No data available        | None known     |               |
| Partition coefficient: n-octanol/water | 0                        |                |               |
| Autoignition temperature               | No data available        | None known     |               |
| Decomposition temperature              | No data available        | None known     |               |
| Kinematic viscosity                    | No data available        | None known     |               |
| Dynamic viscosity                      | No data available        | None known     |               |

**Other Information**

|                            |                          |
|----------------------------|--------------------------|
| Explosive properties       | No information available |
| Oxidizing properties       | No information available |
| Softening Point            | No information available |
| Molecular Weight           | No information available |
| VOC Content (%)            | No information available |
| Liquid Density             | No information available |
| Bulk Density               | No information available |
| Particle Size              | No information available |
| Particle Size Distribution | No information available |

**10. STABILITY AND REACTIVITY**

|                                    |                                           |
|------------------------------------|-------------------------------------------|
| Reactivity                         | No information available.                 |
| Chemical stability                 | Stable under normal conditions.           |
| Possibility of Hazardous Reactions | None under normal processing.             |
| Hazardous Polymerization           | Hazardous polymerization does not occur.  |
| Conditions to avoid                | Excessive heat.                           |
| Incompatible materials             | None known based on information supplied. |
| Hazardous Decomposition Products   | Carbon oxides.                            |

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

|                            |                                                                                                                                                                                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Information</b> | Product does not present an acute toxicity hazard based on known or supplied information<br>In case of rupture:                                                                                                                                           |
| <b>Inhalation</b>          | In high concentration the gas may cause a suffocation. Victim may not be aware of asphyxiation. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. May cause drowsiness or dizziness. (based on components). |
| <b>Eye contact</b>         | Specific test data for the substance or mixture is not available. Contact with product may cause frostbite.                                                                                                                                               |
| <b>Skin contact</b>        | Specific test data for the substance or mixture is not available. Contact with product may cause frostbite.                                                                                                                                               |
| <b>Ingestion</b>           | Specific test data for the substance or mixture is not available. Not an expected route of exposure.                                                                                                                                                      |

### Information on toxicological effects

**Symptoms** No information available.

### Numerical measures of toxicity

#### Acute Toxicity

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity  
 100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

| Chemical name      | Oral LD50 | Dermal LD50 | Inhalation LC50                                             |
|--------------------|-----------|-------------|-------------------------------------------------------------|
| Methylene fluoride | -         | -           | > 520000 ppm (Rat) 4 h =<br>1890 g/m <sup>3</sup> (Rat) 4 h |

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                                          |                           |
|------------------------------------------|---------------------------|
| <b>Skin corrosion/irritation</b>         | No information available. |
| <b>Serious eye damage/eye irritation</b> | No information available. |
| <b>Respiratory or skin sensitization</b> | No information available. |
| <b>Germ cell mutagenicity</b>            | No information available. |
| <b>Carcinogenicity</b>                   | No information available. |
| <b>Reproductive toxicity</b>             | No information available. |
| <b>STOT - single exposure</b>            | No information available. |

STOT - repeated exposure No information available.

Aspiration hazard No information available.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity The environmental impact of this product has not been fully investigated.

Persistence and Degradability No information available.

Bioaccumulation There is no data for this product.

Mobility No information available.

Other adverse effects No information available.

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number D001

California Waste Codes 331

## 14. TRANSPORT INFORMATION

DOT  
Proper Shipping Name NOT REGULATED  
Hazard Class NON-REGULATED  
N/A

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA  
Proper Shipping Name Not regulated  
Hazard Class NON REGULATED  
N/A

IMDG/IMO  
Hazard Class Not regulated  
N/A

RID Not regulated

ADR Not regulated

ADN Not regulated

## 15. REGULATORY INFORMATION

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

#### International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

#### International Inventories

|               |                                                   |
|---------------|---------------------------------------------------|
| TSCA          | Contact supplier for inventory compliance status. |
| DSL/NDL       | Contact supplier for inventory compliance status. |
| EINECS/ELINCS | Contact supplier for inventory compliance status. |
| ENCS          | Contact supplier for inventory compliance status. |
| KECL          | Contact supplier for inventory compliance status. |
| PICCS         | Contact supplier for inventory compliance status. |
| AICS          | Contact supplier for inventory compliance status. |

#### Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List  
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
 ENCS - Japan Existing and New Chemical Substances  
 KECL - Korean Existing and Evaluated Chemical Substances  
 PICCS - Philippines Inventory of Chemicals and Chemical Substances  
 AICS - Australian Inventory of Chemical Substances

### US Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

#### CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical name                 | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|-------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Methylene fluoride<br>75-10-5 |                             | X                      |                           |                            |

#### CERCLA



This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

| Chemical name                 | New Jersey | Massachusetts | Pennsylvania | Rhode Island | Illinois |
|-------------------------------|------------|---------------|--------------|--------------|----------|
| Methylene fluoride<br>75-10-5 |            |               | X            |              |          |

## 16. OTHER INFORMATION

|             |                  |                |                    |                                    |
|-------------|------------------|----------------|--------------------|------------------------------------|
| <u>NFPA</u> | Health hazards 1 | Flammability 0 | Instability 1      | Physical and Chemical Properties - |
| <u>HMIS</u> | Health hazards 1 | Flammability 0 | Physical hazards 1 | Personal Protection X              |

Prepared By Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

Issuing Date 31-Jan-2019

Revision Date 31-Jan-2019

Revision Note No information available

#### **Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**