# MSDS Report

[redacted]

（Report No.）

[redacted]

（Date of Issue）

[redacted]

（Product Name） Powerbank

[redacted]

# Material Safety Data Sheet

[redacted]

## Section 1 – Chemical Product and Company Identification

[redacted]

| | |
|---|---|
| Sample Name.....: | Powerbank |
| Trade Mark.....: | NINE CARAT |
| Model.....: | M60 |
| Rating Parameter.....: | 5000mAh/19.25Wh/3.85V |
| Weight.....: | About: 105.990g |
| Dimension.....: | Max (L:102mm * W:66mm * H:8.30mm) |
| [redacted] | |
| Version Number.....: | V1.0 |
| Referenced Documents.....: | ISO 11014:2009 Safety data sheet for chemical products |

## Section 2 – Hazards Identification

| | |
|---|---|
| Preparation hazards and classification | Not dangerous with normal use. Do not dismantle, open or shred battery. Exposure to the ingredients contained within or their ingredients products could be harmful. |
| Apperance, Color, and Odor | Solid object with no odor, Multicolor |
| Primary Route(s) of Exposure | These chemicals are contained in a sealed enclosure. Risk of electrically abused to the point of compromising the enclosure. If this occurs, exposure to the electrolyte solution contained within can |
| Potential Health Effects: | ACUTE (short term): see Section 8 for exposure controls In the event that this battery has been ruptured, the electrolyte solution contained within the battery would be corrosive and can cause burns.<br>Inhalation: Inhalation of materials from a sealed battery is not an expected route of exposure. Vapors or mists from a ruptured battery may cause respiratory irritation.<br>Ingestion: Swallowing of materials from a sealed battery is not an expected route of exposure. Swallowing the contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.<br>irritation or burns to the skin. |

| | |
|---|---|
| | severe irritation or burns to the eye.<br>CHRONIC (long term): see Section 11 for additional toxicological data |
| Medical Conditions Aggravated by Exposure | Not applicable |
| Reported as carcinogen | Not applicable |

## Section 3 – Composition/Information on Ingredients

| Hazardous Ingredients (Chemical Name) | Concentration or concentration ranges(%) | CAS Number |
|---|---|---|
| Lithium Cobalt Oxide ($LiCoO_2$) | 15-40 | |
| Graphite (C) | 10-30 | |
| Lithium hexafluorophosphate ($LiPF_6$) | 10-30 | |
| Copper (Cu) | 7-13 | |
| Aluminium (Al) | 5-10 | |
| Nickel (Ni) | 1-5 | |

Labeling according to EC directives.

No symbol and risk phrase are required.

Note:CAS number is Chemical Abstract Service Registry Number. N/A=Not apply

## Section 4 – First-aid Measures

| | |
|---|---|
| Inhalation | If contents of an opened battery are inhaled, remove source of contamination or move victim to fresh air. Obtain medical advice. |
| | remove contaminated clothing, shoes and leather goods. Immediately flush with lukewarm, gently flowing water for at least 30 minutes. If irritation or pain persists, seek medical attention. Completely decontaminate clothing, shoes and leather goods before reuse or discard. |
| | contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes while holding the eyelids open. Neutral saline solution may be used as soon as it is available. If necessary, continue flushing during transport to emergency care facility. Take care not to rinse contaminated water into the unaffected eye or onto face. Quickly transport victim to an emergency care facility. |
| Ingestion | If ingestion of contents of an open battery occurs, never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. Do not induce vomiting. Have victim drink 60 to 240 mL (2-8 oz.) of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Quickly transport victim to an emergency care facility. |

## Section 5 – Fire-fighting Measures

| | |
|---|---|
| Flammable Properties | In the event that this battery has been ruptured, the electrolyte solution contain within the battery would be flammable. Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of flammable or corrosive materials. |
| Suitable extinguishing Media | Use extinguishing media suitable for the materials that are burning. |
| Unsuitable extinguishing Media | Not applicable |
| Explosion Data | Sensitivity to Mechanical Impact: This may result in rupture in extreme cases<br>Sensitivity to Static Discharge: Not Applicable |
| Specific Hazards arising from the chemical | Fires involving battery can be controlled with water. When water is used, however, hydrogen gas may evolve. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended to extinguish the fire |
| Protective Equipment and precautions for firefighters | As for any fire, evacuate the area and fight the fire from a safe distance. Wear a pressure-demand, self-contained breathing apparatus and full protective gear. Fight fire from a protected location or a safe distance. Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear. |
| NFPA | Health: 0 Flammability: 0 Instability: 0 |

## Section 6 – Accidental Release Measures

| | |
|---|---|
| Personal Precautions, protective equipment, and emergency procedures | Restrict access to area until completion of clean-up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in Section 8. |
| Environmental Precautions | Prevent material from contaminating soil and from entering sewers or waterways. |
| Methods and materials for Containment | Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately. |
| Methods and materials for cleaning up | Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal. |

## Section 7 – Handling and Storage

| | |
|---|---|
| Handling | Don't handling battery with metalwork. Do not open, dissemble, crush or burn battery. Ensure good ventilation/ exhaustion at the workplace.<br>Prevent formation of dust.<br>Information about protection against explosions and fires: Keep ignition sources away-Do not smoke. |
| Storage | If the battery are subject to storage for such a long term as more than |

| | |
|---|---|
| | 6 months, it is recommended to recharge the battery periodically.<br>Storage Temperature<br>Short period less than 3 months: 5℃~+40℃<br>Short period less than 1 year: 10℃~+35℃<br>Humidity: 60±25%RH<br>Do not storage battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.<br>Do not expose battery on heat or fire. Avoid storage in direct sunlight.Do not store together with oxidizing and acidic materials.Do not store together with oxidizing and acidic materials.Keep container tightly sealed. |

## Section 8– Exposure Controls and Personal Protection

| | |
|---|---|
| Engineering Controls | Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes and vapor.<br>Keep away from heat and open flame. Store in a cool, dry place. |
| Personal Protective Equipment | Respiratory Protection: Not necessary under normal conditions.<br>Skin and body Protection: Not necessary under normal conditions, Wear neoprene or nitrile rubber gloves if handling an open or leaking battery. |

| | |
|---|---|
| | Hand protection: Wear neoprene or natural rubber material gloves if handling an open or leaking battery.<br>Eye Protection: Not necessary under normal conditions, Wear safety glasses if handling an open or leaking battery. |
| Other Protective Equipment | Have a safety shower and eye wash fountain readily available in the immediate work area. |
| Hygiene Measures | Do not eat, drink, or smoke in work area. Maintain good housekeeping. |

## Section 9 - Physical and Chemical Properties

| | |
|---|---|
| Physical State | Form: Solid |
| | Color: Multicolor |
| | Odour: If leaking,smells of medical ether. |
| Change in condition: | |
| pH, with indication of the concentration | Not applicable |
| Melting point/freezing point | Not applicable |
| Boiling Point, initial boiling point and Boiling range: | Not applicable |
| Flash Point | Not applicable |

| | |
|---|---|
| Upper/lower flammability or explosive limits | Not applicable |
| Vapor Pressure: | Not applicable |
| Vapor Density: (Air = 1) | Not applicable |
| Density/relative density | Not applicable |
| Solubility in Water: | Not applicable |
| n-octanol/water partition coefficient | Not applicable |
| Auto-ignition temperature | Not applicable |
| Decomposition temperature | Not applicable |
| Odor threshold | Not applicable |
| Evaporation rate | Not applicable |
| Flammability (soil, gas) | Not applicable |
| Viscosity | Not applicable |

## Section 10 - Stability and Reactivity

| | |
|---|---|
| Stability | The product is stable under normal conditions. |
| Conditions to Avoid (e.g. static discharge, shock or vibration) | Do not subject battery to mechanical shock.<br>Vibration encoutered during transportation does not cause leakage, |

| | |
|---|---|
| | fire or explosion.<br>Do not disassemble, crush, short or install with incorrect polarity.<br>Avoid mechanical or electrical abuse. |
| Incompatible Materials | Not applicable |
| Hazardous Decomposition Products | This material may release toxic fumes if burned or exposed to fire |
| Possibility of Hazardous Reaction | Not applicable |

## Section 11 - Toxicological Information

| | |
|---|---|
| Irritation | Risk of irritation occurs only if the battery is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes and respiratory tract may occur. |
| Sensitization | Not applicable |
| Neurological Effects | Not applicable |
| Teratogenicity | Not applicable |
| Reproductive Toxicity | Not applicable |
| Mutagenicity (Genetic Effects) | Not applicable |
| Toxicologically Synergistic Materials | Not applicable |

## Section 12 - Ecological Information

| | |
|---|---|
| General note: | Water hazard class 1(Self-assessment): slightly hazardous for water.<br>Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. |
| Anticipated behavior of a chemical product in environment/possible environmental impact/ecotoxicity | Not applicable |
| Mobility in soil | Not applicable |
| Persistence and Degradability | Not applicable |
| Bioaccumulation potential | Not applicable |
| Other Adverse Effects | Not applicable |

## Section 13 – Disposal Considerations

Product disposal recommendation: Observe local, state and federal laws and regulations.

Attention for Waste Treatment: Deserted batteries shouldn't be treated as ordinary trash. Shouldn't be thrown into fire or placed in high temperature. Shouldn't be dissected, pierced, crushed or treated similarly. Best disposal method is recycling.

## Section 14 – Transport Information

For the international transport of lithium batteries, they must comply with these regulations: the International Maritime Dangerous Goods (IMDG) Code by International Maritime Organization (IMO), Dangerous Goods Regulations (DGR) by International Air Transport Association (IATA) and Technical Instructions for the Safe Transport of Dangerous Goods by Air by International Civil Aviation Organization

(ICAO). These regulations are based on the UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria.

Lithium batteries which meet the requirements of UN38.3 (UN Manual of Tests and Criteria, Part III, subsection 38.3) could be transported by air and by sea as ordinary goods, otherwise should be transported according to Class 9, Packing Group II hazardous goods.

International regulations for transport Sea IMDG CODE (Amdt.42-24): Special provision 188.

ICAO / IATA:Can be shipped by air in accordance with International Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA), DGR Packing Instructions PI 965 Section IB, PI 966 Section II and PI 967 Section II appropriate of IATA DGR 66th (2025 Edition) for transportation.

UN number: UN3480, UN3481

UN Proper shipping name: Lithium ion batteries or Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment.

Transport hazard classification: /

Packing group (if applicable): /

Marine pollutant (Yes/No): No

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): No available.

Special precautions: No available.

## Section 15 - Regulatory Information

√

## Section 16 - Other Information

The information above is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. We makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall we be liable for Any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, however arising from using the above information.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.

# Statement

1. [redacted]

   (This report is invalid unless stamped by the laboratory.)

2. [redacted]

3. [redacted]

   (The report shall not be partially reproduced without the written consent of the Laboratory.)

4. [redacted]

   (This report is invalid if transferred, altered or tampered with in any form without authorization.)

5. [redacted]

   The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.

6. [redacted]

   (Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.)

[redacted]