## Section 1 – Chemical Product and Company Identification

Product Identification: NAXAMLC07
Product Name: Nickel Metal Hydride Battery HS-AAA700
Manufacturer: Harding Energy, Inc.
Address: 509 East Ellis Road, Muskegon, MI 49441
Telephone Number: 231-798-7033
Fax Number: 231-798-7044
Effective Date: January 7, 2020
E-mail: kknowles@hardingenergy.com

## Section 2 – Hazardous Identification

**Health Hazards (Acute and Chronic)**
These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. Contact of electrolyte and extruded lithium with skin and eyes should be avoided.
**Sign/Symptoms of Exposure**
A shorted lithium battery can cause thermal and chemical burns upon contact with the skin

## Section 3 – Composition/Information on Ingredient

| Chemical Compositon | Molecular Formula | CAS No. | Weight (%) |
|---|---|---|---|
| Nickel Hydroxide | Ni(OH)2 | 12054-48-7 | 35 |
| Potassium solution | KOH | 1310-58-3 | 5 |
| Sodium solution | NaOH | 1310-73-2 | 5 |
| Cobalt | Co | 7440-48-4 | 8 |
| Iron | Fe | 7439-89-6 | 12 |
| Copper | Cu | 7440-50-8 | 5 |
| Non Hazardous Materials | NA | NA | 30 |

## Section 4 – First Aid Measures

**Ingestion:** Give at least 2 glasses of milk or water and then induce vomiting unless patient is unconscious. Seek medical attention immediately.
**Inhalation:** Remove from exposure and provide fresh air immediately. Seek medical attention.
**Eyes contact:** Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.
**Skin contact:** Remove contaminated clothing and thoroughly wash with soap and plenty of water. If irritation persists, seek medical attention.

## Section 5 – Fire Fighting

**Flash Point:** N/A
**Auto-Ignition Temperature:** N/A
**Extinguishing Media**
Dry chemical, Foam Extinguisher $CO_2$
**Special Fire-Fighting Procedures**
NA.
**Unusual Fire and Explosion Hazards**
Do not dispose of battery on fire – may explode
Do not short circuit battery – may cause burns

## Section 6 – Accidental Release Measures

**Steps to be Taken in case Material is Released or Spilled**
Batteries that have a leak should be handled with rubber gloves. Avoid direct contact with electrolytes. Personnel should wear protective clothing and a positive pressure Self-Contained Breathing Apparatus (SCBA)

**Waste Disposal Method**
It is recommended to discharge the battery to the end, handing in the abandoned batteries to related department unified, dispose of the batteries in accordance with approved local, state and federal requirements. Consult state environmental protection agency and/or federal EPA.

## Section 7 – Handling and Storage

The batteries should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container. Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fir. Do not crush or puncture the battery or immerse in liquids.
**Precautions to be taken in handling and storing**

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

**Other Precautions**

Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

## Section 8 – Exposure Controls, Personal Protection

**Respiratory Protection**

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting batteries. Respiratory Protection is not necessary under conditions of normal use.

**Ventilation**

Not necessary under conditions of normal use.

**Protective Gloves**

Not necessary under conditions of normal use.

**Other Protective Clothing or Equipment**

Not necessary under conditions of normal use.

Personal Protection is recommended for venting batteries: Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

## Section 9 – Physical and Chemical Properties

**Nominal Voltage:** 8.4V
**Rated Capacity:** 630mAh
**Appearance Characters:** Green, Cylinder, with odorless solid battery

**Chemical Uses:** Electronic products

## Section 10 – Stability and Reactivity

**Stability**

Stable

**Conditions to Avoid**

Heating, mechanical abuse and electrical abuse, sparks, moisture

**Hazardous Decomposition Products**

Nickel-Hydroxide, Cobalt, Metal Hydride

**Hazardous Polymerization**

Will not occur

If leaked, forbidden to contact with acids, aldehydes, and carbonate compounds

## Section 11 – Toxicological Information

In case of electrolyte leakage, skin will be itchy when contaminated with electrolyte. Contact with electrolyte can cause severe irritation and chemical burns; inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs.

## Section 12 – Ecological Information

When promptly used or disposed the battery does not present environmental hazard. When disposed, keep away from water, rain and snow.

## Section 13 – Disposal Considerations

**APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION**

Incineration: Never incinerate NI-MH batteries
Landfill: Never dispose NI-MH batteries in a landfill
Dispose in accordance with all applicable nations, federal, state, and local regulations.

## Section 14 – Transport Information

Harding Energy, Inc. sealed Nickel Metal Hydride batteries are considered to be "dry cell" batteries and are not subject to danger goods regulation for the purpose of transportation by the U.S. Department of Transportation (DOT) and Comply with SP963 + SP117. The International Civil Aviation Organization (ICAO), the International Air Transportation Association (IATA) or the International Maritime Dangerous Goods regulations (IMDG). More information concerning shipping, testing, marking and packaging can be obtained from Label master at http://www.labelmaster.com. **IATA DANGEROUS GOODS REGULATIONS** A-199 EDITION 60th 2019 & IMDG require that batteries being transported must be protected from short-circuiting and protected from movement that could lead to short-circuiting.

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. **Harding Energy, Inc.** makes no warranty, expressed or implied, with respect to this information and disclaims all liabilities from reliance on it.

## Section 15 – Regulatory Information

Special requirements will be according to local regulations.

## Section 16 – Other Information

The above information is based on the data of which we are aware is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and

with which may be unfamiliar and since date made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

The data in this Material Safety Data Sheet relates only to the specific material designated herein.

More information concerning shipping, testing, marking and packaging can be obtained from Harding Energy, Inc. representative.

Kenneth Knowles
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