SAFETY DATA SHEET

Issuing Date 11-Sep-2020 **Revision Date** 06-Jan-2020 **Revision Number** 0

NGHS / English

1. IDENTIFICATION

Product identifier

Product Name PMNN4477AR NiMH Rechargeable Battery

Other means of identification

Product Code(s) 1252971

Recommended use of the chemical and restrictions on use

Recommended Use Nickel Metal Hydride (NiMH) Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Motorola Solutions, Inc.

Address 8000 West Sunrise Blvd
Plantation
FL
33322
US

Telephone Phone:954-723-6043

E-mail claudia.capparelli@motorolasolutions.com

Emergency telephone number

Company Emergency Phone Number 954-439-8295

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4

Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

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

Appearance No information available **Physical state** Solid containing liquid Solid **Odor** Characteristic

GHS Label elements, including precautionary statements

Danger

Hazard statements
Harmful if swallowed
Harmful in contact with skin
Harmful if inhaled
Causes severe skin burns and eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Suspected of causing genetic defects
May cause cancer
May damage fertility or the unborn child
Causes damage to organs
Causes damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
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
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing must not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Precautionary Statements - Response
Specific treatment (see supplemental first aid instructions on this label)
Immediately call a POISON CENTER or doctor
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

Skin
Call a POISON CENTER or doctor if you feel unwell
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER or doctor
Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor 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
May be harmful if swallowed. Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity 95 % of the mixture consists of ingredient(s) of unknown toxicity
55.92 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
95 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
73 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
73 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
73 % 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	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Nickel hydroxide	12054-48-7	27	-	-
Third Party Formulation (TP # 1523612)	-	10 - 20%	-	-
Third Party Formulation	-	0 - 10%	-	-
Sodium hydroxide	1310-73-2	5	-	-
Third Party Formulation (TP # 1523612)	-	0 - 10%	-	-
Third Party Formulation (TP # 1523612)	-	0 - 10%	-	-
Potassium hydroxide	1310-58-3	2	-	-
Lithium hydroxide monohydrate	1310-66-3	1	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention. First aid is upon rupture of sealed battery.

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. May cause allergic respiratory reaction. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

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. May cause an allergic skin reaction.

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. May produce an allergic reaction.

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. See section 8 for more information. Avoid breathing vapors or mists. Avoid breathing dust/fume/gas/mist/vapors/spray.

Most important symptoms and effects, both acute and delayed

Symptoms
Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. 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. May cause sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

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

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

Unsuitable extinguishing media
Do not scatter spilled material with high pressure water streams.

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. Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.

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 Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing vapors or mists. 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. Provide extract ventilation to points where emissions occur. Remove contaminated clothing and shoes. Avoid breathing vapors or mists.

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. Store locked up. Protect from moisture. Store away from other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits .

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Nickel hydroxide 12054-48-7	TWA: 0.2 mg/m³ Ni inhalable particulate matter	TWA: 1 mg/m³ Ni (vacated) TWA: 1 mg/m³ Ni	IDLH: 10 mg/m³ Ni TWA: 0.015 mg/m³ except Nickel carbonyl Ni
Third Party Formulation (TP #	TWA: 1.5 mg/m³	TWA: 1 mg/m³	IDLH: 10 mg/m³

1523612)		(vacated) TWA: 1 mg/m³	TWA: 0.015 mg/m³
Third Party Formulation	TWA: 0.02 mg/m³	TWA: 0.1 mg/m³ dust and fume (vacated) TWA: 0.05 mg/m³ dust and fume	IDLH: 20 mg/m³ dust and fume TWA: 0.05 mg/m³ dust and fume
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m³	TWA: 2 mg/m³ (vacated) Ceiling: 2 mg/m³	IDLH: 10 mg/m³ Ceiling: 2 mg/m³
Third Party Formulation (TP # 1523612)	TWA: 0.2 mg/m³ fume	TWA: 0.1 mg/m³ fume TWA: 1 mg/m³ dust and mist (vacated) TWA: 0.1 mg/m³ Cu dust, fume, mist	IDLH: 100 mg/m³ dust, fume and mist TWA: 1 mg/m³ dust and mist TWA: 0.1 mg/m³ fume
Third Party Formulation (TP # 1523612)	TWA: 0.02 mg/m³ respirable particulate matter TWA: 0.1 mg/m³ inhalable particulate matter	(vacated) TWA: 1 mg/m³ fume (vacated) STEL: 3 mg/m³ fume (vacated) Ceiling: 5 mg/m³ Ceiling: 5 mg/m³ fume	IDLH: 500 mg/m³ TWA: 1 mg/m³ fume STEL: 3 mg/m³
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m³	(vacated) Ceiling: 2 mg/m³	Ceiling: 2 mg/m³

Chemical name	Alberta	British Columbia	Ontario TWAEV	Quebec
Nickel hydroxide 12054-48-7	TWA: 0.2 mg/m³	TWA: 0.05 mg/m³	TWA: 0.2 mg/m³	TWA: 0.2 mg/m³
Third Party Formulation (TP # 1523612)	TWA: 1.5 mg/m³	TWA: 0.05 mg/m³	TWA: 1 mg/m³	TWA: 1.5 mg/m³
Third Party Formulation	TWA: 0.02 mg/m³	TWA: 0.02 mg/m³	TWA: 0.02 mg/m³	TWA: 0.02 mg/m³
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³	CEV: 2 mg/m³	Ceiling: 2 mg/m³
Third Party Formulation (TP # 1523612)	TWA: 0.2 mg/m³ TWA: 1 mg/m³	TWA: 1 mg/m³ TWA: 0.2 mg/m³	TWA: 0.2 mg/m³ TWA: 1 mg/m³	TWA: 0.2 mg/m³ TWA: 1 mg/m³
Third Party Formulation (TP # 1523612)	TWA: 0.2 mg/m³	TWA: 0.2 mg/m³ TWA: 0.02 mg/m³	TWA: 0.2 mg/m³	TWA: 0.2 mg/m³
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³	CEV: 2 mg/m³	Ceiling: 2 mg/m³
Lithium hydroxide monohydrate 1310-66-3			STEL: 1 mg/m³	

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 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

Information on basic physical and chemical properties

Physical state	Solid containing liquid; Solid
Appearance	No information available
Odor	Characteristic
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		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	Virtually insoluble	
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/water	na	
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

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 sensitization in susceptible persons. 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. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause sensitization by skin contact. May be absorbed through the skin in harmful amounts. Harmful in contact with skin.

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. May cause additional affects as listed under "Inhalation".

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Itching. Rashes. Hives.

Numerical measures of toxicity

Acute toxicity

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

ATEmix (oral)	939.70 mg/kg
ATEmix (dermal)	1,350.00 mg/kg
ATEmix (inhalation-gas)	4,500.00 ppm
ATEmix (inhalation-dust/mist)	1.50 mg/L

ATEmix (inhalation-vapor) 11.00 mg/L

Unknown acute toxicity 95 % of the mixture consists of ingredient(s) of unknown toxicity
55.92 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
95 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
73 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
73 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
73 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Nickel hydroxide	= 1515 mg/kg (Rat)	-	= 1200 mg/m³ (Rat) 4 h
Third Party Formulation (TP # 1523612)	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h
Third Party Formulation	= 6171 mg/kg (Rat)	-	> 10 mg/L (Rat) 1 h
Sodium hydroxide	= 325 mg/kg (Rat)	= 1350 mg/kg (Rabbit)	-
Third Party Formulation (TP # 1523612)	= 9 g/kg (Rat)	-	-
Potassium hydroxide	= 284 mg/kg (Rat)	-	-
Lithium hydroxide monohydrate	= 120 mg/kg (Rat)	-	= 0.96 mg/L (Rat) 4 h

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 May cause sensitization by inhalation. May cause sensitization by skin contact.

Germ cell mutagenicity Contains a known or suspected mutagen. Classification based on data available for ingredients. Suspected of causing genetic defects.

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Nickel hydroxide 12054-48-7	A1	Group 1	Known	X
Third Party Formulation (TP # 1523612)	-	Group 2B	Reasonably Anticipated	X
Third Party Formulation	A3	Group 2B	Reasonably Anticipated	X

Legend
ACGIH (American Conference of Governmental Industrial Hygienists)
A1 - Known Human Carcinogen
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

STOT - single exposure Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs if swallowed. Causes damage to organs in contact with skin.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.

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	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Third Party Formulation (TP # 1523612)	96h EC50: 0.174 - 0.311 mg/L (Pseudokirchneriella subcapitata) 72h EC50: = 0.18 mg/L (Pseudokirchneriella subcapitata)	96h LC50: = 1.3 mg/L (Cyprinus carpio) 96h LC50: = 10.4 mg/L (Cyprinus carpio) 96h LC50: > 100 mg/L (Brachydanio rerio)	No data available	48h EC50: = 1 mg/L (Daphnia magna) 48h EC50: > 100 mg/L (Daphnia magna)
Third Party Formulation	No data available	96h LC50: > 100 mg/L (Brachydanio rerio)	No data available	No data available
Sodium hydroxide	No data available	96h LC50: = 45.4 mg/L (Oncorhynchus mykiss)	No data available	No data available
Third Party Formulation (TP # 1523612)	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 1.25 mg/L (Lepomis macrochirus)	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)
Third Party Formulation (TP # 1523612)	No data available	96h LC50: > 3.6 mg/L (Oncorhynchus mykiss)	No data available	No data available

Persistence and Degradability No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Potassium hydroxide	0.83

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 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
Third Party Formulation (TP # 1523612)	Toxic powder Ignitable powder
Third Party Formulation	Toxic powder Ignitable powder
Sodium hydroxide 1310-73-2	Toxic Corrosive
Third Party Formulation (TP # 1523612)	Ignitable powder
Potassium hydroxide 1310-58-3	Toxic Corrosive

14. TRANSPORT INFORMATION

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

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

MEX Not applicable

ICAO Not applicable

IATA Not applicable
- **Proper Shipping Name** NON REGULATED
- **Hazard Class** N/A

IMDG/IMO Not applicable
- **Hazard Class** N/A

RID Not applicable

ADR Not applicable

ADN Not applicable

15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	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/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	Weight-%	SARA 313 - Threshold Values %
Nickel hydroxide - 12054-48-7	12054-48-7	27	0.1
Third Party Formulation (TP # 1523612) -		10 - 20%	0.1
Third Party Formulation -		0 - 10%	0.1
Third Party Formulation (TP # 1523612) -		0 - 10%	1.0
Third Party Formulation (TP # 1523612) -		0 - 10%	1.0

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
Nickel hydroxide 12054-48-7		X		X
Third Party Formulation (TP # 1523612)		X	X	
Sodium hydroxide 1310-73-2	1000 lb			X
Third Party Formulation (TP # 1523612)		X	X	
Potassium hydroxide 1310-58-3	1000 lb			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
Nickel hydroxide 12054-48-7	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ
Third Party Formulation (TP # 1523612)	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
Sodium hydroxide 1310-73-2	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ
Third Party Formulation (TP # 1523612)	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Potassium hydroxide 1310-58-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Nickel hydroxide - 12054-48-7	carcinogen, 10/1/1989
Third Party Formulation (TP # 1523612) -	carcinogen, 10/1/1989 (metallic)
Third Party Formulation -	Carcinogen

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
Nickel hydroxide 12054-48-7	X	X	X	X	X
Third Party Formulation (TP # 1523612)	X	X	X	X	X
Third Party Formulation	X	X	X	X	X
Sodium hydroxide	X	X	X	X	

1310-73-2					
Third Party Formulation (TP # 1523612)	X	X	X	X	X
Third Party Formulation (TP # 1523612)	X	X	X	X	X
Potassium hydroxide 1310-58-3	X	X	X	X	
Lithium hydroxide monohydrate 1310-66-3	X				

16. OTHER INFORMATION

NFPA	**Health hazards** 1	**Flammability** 0	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 0	**Flammability** 0	**Physical hazards** 0	**Personal Protection** X

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End of Safety Data Sheet