SAFETY DATA SHEET

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

Product identifier

Product Name AAA

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Alkaline battery

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name Powermax USA

Supplier Address 11750 Jersey Blvd

Rancho Cucamonga

Ca 91730 US

Supplier Phone Number Phone:2133058100

Fax:8888323558

Contact Phone8888323557

Supplier Email keia@powermaxusa.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 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

GHS Label elements, including precautionary statements

Emergency Overview

Signal word

Danger

Hazard Statements

Harmful if inhaled

Causes skin irritation

Causes serious eye damage

May cause an allergic skin reaction

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.

Appearance Solid

Physical state Solid

Odor 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

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves

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

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

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: Wash with plenty of soap and water

Take off contaminated clothing and wash before reuse

If skin irritation or rash occurs: Get medical advice/attention



Inhalation

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

Ingestion

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

Rinse mouth

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

2.6% of the mixture consists of ingredient(s) of unknown toxicity

Other information

Very toxic to aquatic life with long lasting effects

Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

Interactions with Other Chemicals

Use of alcoholic beverages may enhance toxic effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

.

Chemical Name	CAS No	Weight-%	Trade Secret
Manganese dioxide	1313-13-9	30 - 60	*
Iron	7439-89-6	10 - 30	*
Zinc	7440-66-6	10 - 30	*
Potassium hydroxide	1310-58-3	1 - 5	*
brass	12597-71-6	1 - 5	*
Graphite	7782-42-5	1 - 5	*
Nickel	7440-02-0	0.1 - 1	*

^{*}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 contactRinse immediately with plenty of water, also under the eyelids, for at least 15

minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Seek immediate medical

attention/advice.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. May

cause an allergic skin reaction. In the case of skin irritation or allergic reactions



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see a physician.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Ingestion Rinse mouth immediately and drink plenty of water. Never give anything by mouth

to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. 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. Itching.

Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Notes to Physician May cause sensitization of susceptible persons. Treat symptomatically.

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. In the event of fire and/or explosion do not breathe fumes. Product is or contains a sensitizer. May cause sensitization by skin contact.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

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 Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal

protective equipment as required. Avoid generation of dust. Do not breathe dust. Evacuate

personnel to safe areas.

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

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

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. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.

Keep out of the reach of children.

Incompatible Products Strong acids. Strong oxidizing agents. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Manganese dioxide	TWA: 0.02 mg/m ³ Mn	(vacated) Ceiling: 5 mg/m ³	IDLH: 500 mg/m ³ Mn
1313-13-9	TWA: 0.1 mg/m³ Mn	Ceiling: 5 mg/m ³ Mn	TWA: 1 mg/m³ Mn
			STEL: 3 mg/m ³ Mn
Zinc	STEL: 10 mg/m ³ respirable	TWA: 5 mg/m³ fume	IDLH: 500 mg/m ³
7440-66-6	fraction	TWA: 15 mg/m³ total dust	Ceiling: 15 mg/m³ dust
	TWA: 2 mg/m³ respirable fraction	TWA: 5 mg/m³ respirable fraction	TWA: 5 mg/m ³ dust and fume
			STEL: 10 mg/m³ fume
Potassium hydroxide	Ceiling: 2 mg/m ³	(vacated) Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³
1310-58-3			
brass	TWA: 1 mg/m³ Cu dust and mist	-	IDLH: 100 mg/m3 Cu dust and



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12597-71-6			mist
			TWA: 1 mg/m ³ Cu dust and mist
Graphite	TWA: 2 mg/m³ respirable fraction	TWA: 15 mg/m³ total dust	IDLH: 1250 mg/m ³
7782-42-5	all forms except graphite fibers	synthetic	TWA: 2.5 mg/m ³ respirable dust
		TWA: 5 mg/m³ respirable fraction	
		synthetic	
		(vacated) TWA: 2.5 mg/m ³	
		respirable dust natural	
		(vacated) TWA: 10 mg/m³ total	
		dust synthetic	
		(vacated) TWA: 5 mg/m ³	
		respirable fraction synthetic	
		TWA: 15 mppcf natural	
Nickel	TWA: 1.5 mg/m ³	TWA: 1 mg/m ³	IDLH: 10 mg/m ³
7440-02-0		(vacated) TWA: 1 mg/m ³	TWA: 0.015 mg/m ³

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

Appropriate engineering controls

Engineering Measures Showers

> Eyewash stations Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves. Skin and body protection

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved

respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be

provided in accordance with current local regulations.

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do **Hygiene Measures**

not eat, drink or smoke when using this product. Do not breathe dust. Wash hands before

breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state

Appearance Solid Odorless Odor No information available Color **Odor Threshold**

No information available

Property Values Remarks Method No data available None known Hq 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

Solid

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 Partially soluble Water Solubility None known Solubility in other solvents No data available None known Partition coefficient: n-octanol/waterNo data available None known **Autoignition temperature** No data available None known **Decomposition temperature** No data available None known No data available Kinematic viscosity None known None known **Dynamic viscosity** No data available **Explosive properties** No data available

No data available

Other Information

Oxidizing properties

Softening PointNo data availableVOC Content (%)No data availableParticle SizeNo 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.

Conditions to avoid

Excessive heat.

Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases.

Hazardous Decomposition Products

None known based on information supplied.

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. May cause irritation of

respiratory tract. Harmful by inhalation. (based on components).

Eye contact Specific test data for the substance or mixture is not available. (based on components).

Causes serious eye damage. Severely irritating to eyes. May cause irreversible damage to

eyes.

Skin contact Specific test data for the substance or mixture is not available. Causes skin irritation. (based

on components). Prolonged contact may cause redness and irritation.

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause

irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea,

vomiting and diarrhea. Harmful if swallowed. (based on components).

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Manganese dioxide 1313-13-9	= 9000 mg/kg(Rat)	-	-
Iron 7439-89-6	= 984 mg/kg(Rat)	-	-
Potassium hydroxide 1310-58-3	= 214 mg/kg(Rat)	-	-
Graphite 7782-42-5	> 10000 mg/kg(Rat)	-	-
Nickel 7440-02-0	> 9000 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms Erythema (skin redness). May cause redness and tearing of the eyes. May cause

blindness. Burning. Coughing and/ or wheezing. Itching. Rashes. Hives.

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

Sensitization May cause sensitization of susceptible persons. May cause sensitization by skin contact.

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
Nickel		Group 2B	Reasonably Anticipated	X
7440-02-0		·		

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)

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 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 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. May cause adverse liver effects.

Target Organ Effects None under normal use conditions. Respiratory system. Eyes. Skin. Gastrointestinal tract

(GI). Blood. Central Nervous System (CNS). Central Vascular System (CVS). Kidney. Liver.

Cardiovascular system.

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) 892.00 mg/kg

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ATEmix (inhalation-gas) 11,002.00 ppm (4 hr) ATEmix (inhalation-dust/mist) 3.70 mg/l ATEmix (inhalation-vapor) 27.00 ATEmix

12. ECOLOGICAL INFORMATION

EcotoxicityVery toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Iron 7439-89-6		96h LC50: = 13.6 mg/L (Morone saxatilis)		
Zinc 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
Potassium hydroxide 1310-58-3		96h LC50: = 80 mg/L (Gambusia affinis)		
Nickel 7440-02-0	72h EC50: = 0.18 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.174 - 0.311 mg/L (Pseudokirchneriella subcapitata)	96h LC50: > 100 mg/L (Brachydanio rerio) 96h LC50: = 1.3 mg/L (Cyprinus carpio) 96h LC50: = 10.4 mg/L (Cyprinus carpio)		48h EC50: > 100 mg/L 48h EC50: = 1 mg/L

Persistence and Degradability

No information available.

Bioaccumulation

Chemical Name	Log Pow
Manganese dioxide	<0
1313-13-9	
Potassium hydroxide 1310-58-3	0.83

Other adverse effects

No information available.



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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. Dispose of contents/containers in accordance with

local regulations.

Contaminated Packaging Dispose of contents/containers in accordance with local regulations.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Nickel	(hazardous constituent - no	Included in waste streams:		
7440-02-0	waste number)	F006, F039		

California Hazardous Waste Codes 181

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 7440-66-6	Ignitable powder Toxic
Potassium hydroxide 1310-58-3	Toxic Corrosive
brass 12597-71-6	Toxic
Nickel 7440-02-0	Toxic powder Ignitable powder

14. 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 NON REGULATED

Hazard Class N/A

IMDG/IMO Not regulated

Hazard Class N/A

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 %
Manganese dioxide - 1313-13-9	1313-13-9	30 - 60	1.0
Zinc - 7440-66-6	7440-66-6	10 - 30	1.0
brass - 12597-71-6	12597-71-6	1 - 5	1.0
Nickel - 7440-02-0	7440-02-0	0.1 - 1	0.1

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 7440-66-6		X	X	
Potassium hydroxide 1310-58-3	1000 lb			X
brass 12597-71-6		X		
Nickel 7440-02-0		X	Х	

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 7440-66-6	1000 lb		RQ 454 kg final RQ RQ 1000 lb final RQ
Potassium hydroxide 1310-58-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ
Nickel 7440-02-0	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65



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Nickel - 7440-02-0	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Manganese dioxide 1313-13-9			Х	Х	Х
Zinc 7440-66-6	Х	Х	X	Х	
Potassium hydroxide 1310-58-3	Х	Х	X	Х	
Graphite 7782-42-5	Х	X	X		
Nickel 7440-02-0	X	X	Х	X	X

International Regulations

Mexico

National occupational exposure limits

Component	Carcinogen Status	Exposure Limits
Manganese dioxide 1313-13-9 (30 - 60)		Mexico: TWA= 0.2 mg/m ³
Graphite 7782-42-5 (1 - 5)		Mexico: TWA= 2 mg/m ³
Nickel 7440-02-0 (0.1 - 1)		Mexico: TWA 1 mg/m ³

Mexico - Occupational Exposure Limits - Carcinogens

Canada

WHMIS Hazard Class

Not determined

16. OTHER INFORMATION					
NFPA	Health Hazards 1	Flammability 0	Instability 0	Physical and	
ПМІС	Health Hamarda O	Elemmobility 0	Dhysical Hazard O	Chemical Hazards -	

HMIS Flammability 0 **Health Hazards** 0 Physical Hazard 0

Personal Protection

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

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Revision Note No information available

Disclaimer

Issuing Date

Revision Date

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

