SAFETY DATA SHEET

HCS-2012 APPENDIX D TO §1910.1200

Version 1 **Issue Date** 07-May-2015
Product Name Alkaline battery - LR23A 12V **Revision date** 07-May-2015

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

Product identifier

Product Name	Alkaline battery - LR23A 12V
Chemical Name	Alkaline battery

Other means of identification

Product Type: Alkaline battery
Voltage: 12V
Watt-Hour: 120Wh
Battery Weight: 8.1g

Recommended use of the chemical and restrictions on use

Recommended Use	Power supply
Uses advised against	No information available

Details of the supplier of the safety data sheet

Supplier	Ningbo Jiangdong Qianshou Fuhuan Battery Co., Ltd.
Address	The side of Yong River, The old temple community, Jiangdong District, Ningbo City
Postal Code	315000
Phone	+86-574-87308637
E-mail	1026129258@qq.com

Emergency telephone number

+86-15306660771

2. HAZARDS IDENTIFICATION

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Symbols/Pictograms	None
Signal word	None
Hazard Statements	None
Precautionary Statements	
Prevention	None
Response	None
Storage	None
Disposal	None

Hazards not otherwise classified (HNOC)

No information available

Unknown acute toxicity

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature Mixture

Chemical Name	CAS No	Weight-%
Iron	7439-89-6	48.80
Manganese dioxide	1313-13-9	22.20
Zinc	7440-66-6	12
Water	7732-18-5	5
Potassium hydroxide	1310-58-3	4
Graphite	7782-42-5	3.80
Nickel	7440-02-0	2.00
Nylon-66	32131-17-2	1.20
Copper	7440-50-8	1.00
Lead	7439-92-1	<0.0030
Cadmium and compounds (as Cd)	7440-43-9	<0.0003
Mercury	7439-97-6	<0.0001
Arsenic	7440-38-2	<0.0001

4. FIRST AID MEASURES

Description of first aid measures

General advice: Remove contaminated clothing and shoes. If symptoms persist, call a physician.

Inhalation: Not an expected route of exposure. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin Contact: Wash hands thoroughly after handling. .

Eye contact: Not an expected route of exposure. .

Ingestion: Rinse mouth. Get medical attention. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

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

Unsuitable extinguishing media: No information available.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors

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

Evacuate personnel to safe areas
Ensure adequate ventilation, especially in confined areas
Remove all sources of ignition
Use personal protection recommended in Section 8

Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so
Pick up and transfer to properly labeled containers

Avoid release to the environment

7. HANDLING AND STORAGE

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice
Ensure adequate ventilation, especially in confined areas
Avoid creating dust
Avoid contact with eyes
Wash thoroughly after handling
Use personal protection recommended in Section 8

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place
Keep away from heat

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Denmark	European Union
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.02 mg/m^3 Mn TWA: 0.1 mg/m^3 Mn	(vacated) Ceiling: 5 mg/m^3 Ceiling: 5 mg/m^3 Mn	IDLH: 500 mg/m^3 Mn TWA: 1 mg/m^3 Mn STEL: 3 mg/m^3 Mn	TWA: 0.2 mg/m^3	-
Potassium hydroxide (CAS #: 1310-58-3)	Ceiling: 2 mg/m^3	(vacated) Ceiling: 2 mg/m^3	Ceiling: 2 mg/m^3	Ceiling: 2 mg/m^3	-
Graphite (CAS #: 7782-42-5)	TWA: 2 mg/m^3 respirable fraction all forms except graphite fibers	-	-	TWA: 2.5 mg/m^3	-
Nickel (CAS #: 7440-02-0)	TWA: 1.5 mg/m^3 inhalable fraction	TWA: 1 mg/m^3 (vacated) TWA: 1 mg/m^3	IDLH: 10 mg/m^3 IDLH: 10 mg/m^3 Ni TWA: 0.015 mg/m^3 TWA: 0.015 mg/m^3 except Nickel carbonyl Ni	TWA: 0.05 mg/m^3	-
Copper (CAS #: 7440-50-8)	TWA: 0.2 mg/m^3 fume TWA: 1 mg/m^3 Cu dust and mist	-	-	TWA: 1.0 mg/m^3 TWA: 0.1 mg/m^3	-
Lead (CAS #: 7439-92-1)	TWA: 0.05 mg/m^3 TWA: 0.05 mg/m^3 Pb	-	-	TWA: 0.05 mg/m^3	-
Cadmium and compounds (as Cd) (CAS #: 7440-43-9)	TWA: 0.01 mg/m^3 TWA: 0.002 mg/m^3 respirable fraction TWA: 0.01 mg/m^3 Cd TWA: 0.002 mg/m^3 Cd respirable fraction	TWA: 0.1 mg/m^3 fume applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect TWA: 0.2 mg/m^3 dust applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect TWA: 5 µg/m^3 (vacated) STEL: 0.3 ppm fume Ceiling: 0.3 mg/m^3 fume applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect Ceiling: 0.6 mg/m^3 dust applies to any operations or sectors for which the Cadmium standard is stayed or	IDLH: 9 mg/m^3 dust IDLH: 9 mg/m^3 Cd dust and fume	TWA: 0.005 mg/m^3	-

		otherwise not in effect			
Mercury (CAS #: 7439-97-6)	TWA: 0.025 mg/m³ TWA: 0.025 mg/m³ Hg S*	(vacated) TWA: 0.05 mg/m³ vapor (vacated) STEL: 0.03 mg/m³ (vacated) S* (vacated) Ceiling: 0.1 mg/m³ (vacated) Ceiling: 0.1 mg/m³ Hg Ceiling: 0.1 mg/m³	IDLH: 10 mg/m³ IDLH: 10 mg/m³ Hg Ceiling: 0.1 mg/m³ Ceiling: 0.1 mg/m³ Hg TWA: 0.05 mg/m³ vapor TWA: 0.05 mg/m³ except Organo alkyls Hg vapor	TWA: 0.02 mg/m³ Skin	-
Arsenic (CAS #: 7440-38-2)	TWA: 0.01 mg/m³ TWA: 0.01 mg/m³ As	TWA: 10 µg/m³ As (vacated) TWA: 0.5 mg/m³	IDLH: 5 mg/m³ IDLH: 5 mg/m³ As Ceiling: 0.002 mg/m³ 15 min Ceiling: 0.002 mg/m³ As 15 min	TWA: 0.01 mg/m³	-

Chemical Name	Latvia	France	Finland	Germany	Italy
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m³	-	TWA: 0.2 mg/m³ TWA: 0.1 mg/m³	TWA: 0.2 mg/m³ TWA: 0.02 mg/m³ Ceiling / Peak: 1.6 mg/m³ Ceiling / Peak: 0.16 mg/m³ TWA: 0.5 mg/m³	-
Zinc (CAS #: 7440-66-6)		-	-	TWA: 0.1 mg/m³ TWA: 2 mg/m³ Ceiling / Peak: 0.4 mg/m³ Ceiling / Peak: 4 mg/m³	-
Potassium hydroxide (CAS #: 1310-58-3)	-	STEL: 2 mg/m³	STEL: 2 mg/m³ Ceiling: 2 mg/m³	-	-
Nickel (CAS #: 7440-02-0)	TWA: 0.05 mg/m³	TWA: 1 mg/m³	TWA: 1 mg/m³ TWA: 0.1 mg/m³	Skin	-
Cadmium and compounds (as Cd) (CAS #: 7440-43-9)	TWA: 0.01 mg/m³ STEL: 0.05 mg/m³	TWA: 0.05 mg/m³	TWA: 0.02 mg/m³ Skin	Skin	-
Mercury (CAS #: 7439-97-6)	TWA: 0.02 mg/m³	TWA: 0.02 mg/m³	TWA: 0.02 mg/m³ Skin	TWA: 0.02 mg/m³ Ceiling / Peak: 0.16 mg/m³ Skin	-
Arsenic (CAS #: 7440-38-2)	TWA: 0.01 mg/m³ STEL: 0.04 mg/m³	-	TWA: 0.01 ppm	Skin	-

Chemical Name	Poland	Portugal	Spain	Switzerland	Netherlands
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m³	TWA: 0.2 mg/m³	TWA: 0.2 mg/m³	TWA: 0.5 mg/m³	-
Potassium hydroxide (CAS #: 1310-58-3)	STEL: 1 mg/m³ TWA: 0.5 mg/m³	Ceiling: 2 mg/m³	STEL: 2 mg/m³	TWA: 2 mg/m³	-
Nickel (CAS #: 7440-02-0)	TWA: 0.25 mg/m³	TWA: 1.5 mg/m³	TWA: 1 mg/m³	TWA: 0.5 mg/m³	-
Cadmium and compounds (as Cd) (CAS #: 7440-43-9)	TWA: 0.01 mg/m³ TWA: 0.002 mg/m³	TWA: 0.01 mg/m³ TWA: 0.002 mg/m³	TWA: 0.01 mg/m³ TWA: 0.002 mg/m³	Skin TWA: 0.015 mg/m³	-
Mercury (CAS #: 7439-97-6)	TWA: 0.02 mg/m³	TWA: 0.025 mg/m³	TWA: 0.02 mg/m³	Skin STEL: 0.04 ppm STEL: 0.4 mg/m³ STEL: 0.16 mg/m³ TWA: 0.005 ppm TWA: 0.05 mg/m³ TWA: 0.02 mg/m³	TWA: 0.02 mg/m³
Arsenic (CAS #: 7440-38-2)	TWA: 0.01 mg/m³	TWA: 0.01 mg/m³	TWA: 0.01 mg/m³	-	-

Chemical Name	Norway	United Kingdom	Australia	Austria	Belgium
Manganese dioxide (CAS #: 1313-13-9)	TWA: 1 mg/m³ TWA: 0.1 mg/m³ STEL: 3 ppm STEL: 0.3 mg/m³	TWA: 0.5 mg/m³	1 mg/m³	STEL 2 mg/m³ TWA: 0.5 mg/m³	-
Potassium hydroxide (CAS #: 1310-58-3)	Ceiling: 2 mg/m³	STEL: 2 mg/m³	2 mg/m³ Peak	TWA: 2 mg/m³	-
Graphite (CAS #: 7782-42-5)	-	-	3 mg/m³	STEL 10 mg/m³ TWA: 5 mg/m³	-

Nickel (CAS #: 7440-02-0)	TWA: 0.05 mg/m^3 STEL: 0.15 mg/m^3	STEL: 1.5 mg/m^3 TWA: 0.5 mg/m^3	1 mg/m^3	-	-
Copper (CAS #: 7440-50-8)	-	-	1 mg/m^3 0.2 mg/m^3	STEL 4 mg/m^3 STEL 0.4 mg/m^3 TWA: 1 mg/m^3 TWA: 0.1 mg/m^3	-
Lead (CAS #: 7439-92-1)	-	-	0.15 mg/m^3	STEL 0.4 mg/m^3 TWA: 0.1 mg/m^3	-
Cadmium and compounds (as Cd) (CAS #: 7440-43-9)	TWA: 0.05 mg/m^3 STEL: 0.15 mg/m^3	STEL: 0.075 mg/m^3 TWA: 0.025 mg/m^3	0.01 mg/m^3	-	-
Mercury (CAS #: 7439-97-6)	TWA: 0.02 mg/m^3 STEL: 0.06 mg/m^3	TWA: 0.02 mg/m^3	0.003 ppm 0.025 mg/m^3	Skin STEL 0.08 mg/m^3 TWA: 0.02 mg/m^3	-
Arsenic (CAS #: 7440-38-2)	TWA: 0.01 mg/m^3 STEL: 0.03 mg/m^3	STEL: 0.3 mg/m^3 TWA: 0.1 mg/m^3	0.05 mg/m^3	-	-

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas

Individual protection measures, such as personal protective equipment

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.
Hand Protection	Wear protective gloves.
Eye/face protection	No special technical protective measures are necessary.
Skin and body protection	Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid
Color	Metallic
Odor	Odorless
Odor Threshold	Not determined
pH	Not determined
Melting point/freezing point	Not determined
Boiling point / boiling range	Not determined
Flash point	Not applicable
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Flammability Limit in Air	Not determined
Vapor Pressure	Not applicable
Vapor density	Not determined
Density	Not determined
Relative density	Not determined
Bulk density	Not determined
Specific gravity	Not determined
Water solubility	Not determined
Partition coefficient (LogPow)	Not determined
Autoignition temperature	Not determined
Decomposition temperature	Not determined
Kinematic viscosity	Not determined
Dynamic viscosity	Not determined
Explosive properties	Not an explosive
Oxidizing properties	Not determined

Other information

No information available

10. STABILITY AND REACTIVITY

Reactivity

Stable under recommended storage and handling conditions (see SECTION 7, handling and storage).

Chemical stability

Stable under normal conditions

Possibility of Hazardous Reactions

None under normal processing

Conditions to avoid

Strong heating. Incompatible materials

Incompatible materials

Strong acids Strong bases Strong oxidizing agents

Hazardous Decomposition Products

None known based on information supplied

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Not an expected route of exposure
Eye contact	Not an expected route of exposure
Skin Contact	Non-irritating to the skin
Ingestion	No known effect based on information supplied

Information on toxicological effects

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Iron (CAS #: 7439-89-6)	98.6 g/kg bw (rat)	-	-
Manganese dioxide (CAS #: 1313-13-9)	= 9000 mg/kg (Rat)	-	-
Potassium hydroxide (CAS #: 1310-58-3)	= 333 mg/kg (Rat)	-	-
Nickel (CAS #: 7440-02-0)	> 9000 mg/kg (Rat)	-	-
Copper (CAS #: 7440-50-8)	> 2500 mg/kg bw(rat)	> 2000 mg/kg bw(rat)	=1.03 mg/L/4 h(rat)
Cadmium and compounds (as Cd) (CAS #: 7440-43-9)	= 2330 mg/kg (Rat)	-	= 25 mg/m^3 (Rat) 30 min

Skin corrosion/irritation

Non-irritating to the skin

Serious eye damage/eye irritation

No eye irritation

Sensitization

No information available

Germ cell mutagenicity

No information available

Carcinogenicity

Chemical Name	ACGIH	IARC	NTP	OSHA
Nickel (CAS #: 7440-02-0)	-	Group 2B	Known Reasonably Anticipated	X

Lead (CAS #: 7439-92-1)	A3	-	-	-
Cadmium and compounds (as Cd) (CAS #: 7440-43-9)	A2	Group 1	Known	X
Mercury (CAS #: 7439-97-6)	-	Group 3	-	-
Arsenic (CAS #: 7440-38-2)	A1	Group 1	Known	X

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

Ecotoxicity

Chemical Name	Algae/aquatic plants EC50	Fish LC50	Crustacea EC50
Iron (CAS #: 7439-89-6)	-	-	> 100 mg/L/48h (Daphnia magna)
Zinc (CAS #: 7440-66-6)	0.11 - 0.271 mg/L/96h Pseudokirchneriella subcapitata static 0.09 - 0.125 mg/L/72h Pseudokirchneriella subcapitata static	2.16 - 3.05 mg/L/96h Pimephales promelas flow-through 0.211 - 0.269 mg/L/96h Pimephales promelas semi-static 2.66: mg/L/96h Pimephales promelas static 30 mg/L/96h Cyprinus carpio 0.45 mg/L/96h Cyprinus carpio semi-static 7.8 mg/L/96h Cyprinus carpio static 3.5 mg/L/96h Lepomis macrochirus static 0.24 mg/L/96h Oncorhynchus mykiss flow-through 0.59 mg/L/96h Oncorhynchus mykiss semi-static 0.41 mg/L/96h Oncorhynchus mykiss static	0.139 - 0.908 mg/L/48h Daphnia magna Static
Potassium hydroxide (CAS #: 1310-58-3)	-	80mg/L/96h Gambusia affinis static	-
Nickel (CAS #: 7440-02-0)	0.18 mg/L/72h Pseudokirchneriella subcapitata 0.174 - 0.311 mg/L/96h Pseudokirchneriella subcapitata static	100 mg/L/96h Brachydanio rerio 1.3 mg/L/96h Cyprinus carpio semi-static 10.4 mg/L/96h Cyprinus carpio static	100 mg/L/48h Daphnia magna 1 mg/L/48h Daphnia magna Static
Copper (CAS #: 7440-50-8)	0.031 - 0.054 mg/L/96h Pseudokirchneriella subcapitata static 0.0426 - 0.0535 mg/L/72h Pseudokirchneriella subcapitata static	-	-

Cadmium and compounds (as Cd) (CAS #: 7440-43-9)	-	0.003: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.006: 96 h Oncorhynchus mykiss mg/L LC50 static 0.002: 96 h Cyprinus carpio mg/L LC50 4.26: 96 h Cyprinus carpio mg/L LC50 semi-static 0.24: 96 h Cyprinus carpio mg/L LC50 static 21.1: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.016: 96 h Oryzias latipes mg/L LC50 0.0004 - 0.003: 96 h Pimephales promelas mg/L LC50	0.0244: 48 h Daphnia magna mg/L EC50 Static
Mercury (CAS #: 7439-97-6)	-	0.5: 96 h Cyprinus carpio mg/L LC50 0.16: 96 h Cyprinus carpio mg/L LC50 semi-static 0.18: 96 h Cyprinus carpio mg/L LC50 static 0.9: 96 h Oryzias latipes mg/L LC50 flow-through	5.0: 96 h water flea µg/L EC50

Persistence and degradability

No information available

Bioaccumulative potential

Chemical Name	Partition coefficient (LogPow)
Manganese dioxide (CAS #: 1313-13-9)	<0

Mobility in soil

No information available

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes: Disposal should be in accordance with applicable regional, national and local laws and regulations

Contaminated packaging: Dispose of in accordance with federal, state and local regulations

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Nickel 7440-02-0	-	Included in waste streams: F006, F039	-	-
Cadmium and compounds (as Cd) 7440-43-9	-	Included in waste streams: F006, F039, K061, K069, K100	1.0 mg/L regulatory level	-
Arsenic 7440-38-2	-	Included in waste streams: F032, F034, F035, F039, K031, K060, K084, K101, K102, K161, K171, K172, K176	5.0 mg/L regulatory level	-
Mercury 7439-97-6	U151	Included in waste streams: F039, K071, K106, K175	0.2 mg/L regulatory level	U151

Chemical Name	California Hazardous Waste Status
Zinc 7440-66-6	Ignitable powder Toxic
Potassium hydroxide 1310-58-3	Toxic Corrosive
Nickel 7440-02-0	Toxic powder Ignitable powder
Copper 7440-50-8	Toxic

Lead 7439-92-1	Toxic

14. TRANSPORT INFORMATION

DOT

UN/ID No.	Not regulated
Proper shipping name	Not regulated
Hazard Class	Not regulated
Packing Group	Not regulated
Special precautions	No information available
Marine pollutant	Not applicable
UN/ID No.	Not Regulated
UN/ID No.	Not Regulated
UN/ID No.	Not Regulated

15. REGULATORY INFORMATION

International Inventories

Component	AICS	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	TSCA
Iron 7439-89-6 (30 - 60)	X	X	X	-	X	X	X	X
Manganese dioxide 1313-13-9 (10 - 30)	X	X	X	X	X	X	X	X
Zinc 7440-66-6 (7 - 13)	X	X	X	-	X	X	X	X
Water 7732-18-5 (3 - 7)	X	X	X	-	X	X	X	X
Potassium hydroxide 1310-58-3 (1 - 5)	X	X	X	X	X	X	X	X
Graphite 7782-42-5 (1 - 5)	X	X	X	-	X	X	X	X
Nickel 7440-02-0 (1 - 5)	X	X	X	-	X	X	X	X
Nylon-66 32131-17-2 (1 - 5)	X	X	-	X	X	X	X	X
Copper 7440-50-8 (1 - 5)	X	X	X	-	X	X	X	X
Lead 7439-92-1 (<0.1)	X	X	X	-	X	X	X	X
Cadmium and compounds (as Cd) 7440-43-9 (<0.1)	X	X	X	-	X	X	X	X
Mercury 7439-97-6 (<0.1)	X	X	X	-	X	X	X	X
Arsenic 7440-38-2 (<0.1)	X	X	X	-	X	X	X	X

"-" Not Listed
"X" Listed

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	SARA 313 - Threshold Values %
Manganese dioxide - 1313-13-9	1.0
Zinc - 7440-66-6	1.0
Nickel - 7440-02-0	0.1
Cadmium and compounds (as Cd) - 7440-43-9	0.1
Mercury - 7439-97-6	1.0
Arsenic - 7440-38-2	0.1

SARA 311/312 Hazard Categories

Does not apply

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
Nickel 7440-02-0	-	X	X	-
Copper 7440-50-8	-	X	X	-
Lead 7439-92-1	-	X	X	-
Cadmium and compounds (as Cd) 7440-43-9	-	X	X	-
Mercury 7439-97-6	-	X	X	-
Arsenic 7440-38-2	-	X	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

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (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
Cadmium and compounds (as Cd) 7440-43-9	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ
Mercury 7439-97-6	1 lb	-	RQ 1 lb final RQ RQ 0.454 kg final RQ
Arsenic 7440-38-2	1 lb	-	RQ 1 lb final RQ RQ 0.454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Nickel - 7440-02-0	Carcinogen
Lead - 7439-92-1	Carcinogen Developmental Female Reproductive Male Reproductive
Cadmium and compounds (as Cd) - 7440-43-9	Carcinogen Developmental Male Reproductive

Arsenic - 7440-38-2	Carcinogen
Mercury - 7439-97-6	Developmental

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
Manganese dioxide 1313-13-9	X	-	X
Zinc 7440-66-6	X	X	X
Potassium hydroxide 1310-58-3	X	X	X
Nickel 7440-02-0	X	X	X
Cadmium and compounds (as Cd) 7440-43-9	X	X	X
Arsenic 7440-38-2	X	X	X
Mercury 7439-97-6	X	X	X

16. OTHER INFORMATION

Revision Note

Issue Date	07-May-2015
Revision date	07-May-2015
Revision Note	Not applicable

Key or legend to abbreviations and acronyms used in the safety data sheet

TWA - TWA (time-weighted average)
STEL - STEL (Short Term Exposure Limit)
Ceiling - Maximum limit value
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
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Disclaimer

The information provided in this Material 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.

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