



Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: DURACELL ALKALINE BATTERIES

Product Identification: Alkaline Manganese Dioxide Cells –

Duracell Designations: 7K67; MN1203; MN1300; MN1400; MN1500; MN2400; MN1604; MN908; MN918; MN9100; MX1604; MX2500; MX1300; MX1400; MX1500; MX2400

Product Use: Energy Source

MSDS Date of Preparation: August 24, 2009

Company Identification

US Office

Duracell, a division of P&G
Berkshire Corporate Park
14 Research Drive
Bethel, CT USA 06401
(203) 796-4000

Canadian Office

Duracell, a division of P&G
4711 Yonge Street
Toronto, Ontario
Canada M2N 6K8
(416) 730-4711

Emergency Phone Number: INFOTRAC Emergency Response Hotline 1-800-535-5053 (US & Canada)

SECTION 2: HAZARDS IDENTIFICATION

Physical Appearance: Copper top battery.

EMERGENCY OVERVIEW

CAUTION: May explode or leak, and cause burn injury, if recharged, disposed of in fire, mixed with a different battery type, inserted backwards or disassembled. Replace all used batteries at the same time. Do not carry batteries loose in your pocket or purse. Do not remove the battery label.

Potential Health Effects:

The chemicals and metals in this product are contained in a sealed can. Exposure to the contents will not occur unless the battery leaks, is exposed to high temperatures or is mechanically, physically, or electrically abused. Damaged battery will release concentrated potassium hydroxide, which is caustic. Anticipated potential leakage of potassium hydroxide is 2 to 20 mL, depending on battery size.

Eye Contact: Contact with battery contents may cause severe irritation and burns. Eye damage is possible.

Skin Contact: Contact with battery contents may cause severe irritation and burns.

Inhalation: Inhalation of vapors or fumes released due to heat or a large number of leaking batteries may cause respiratory and eye irritation.

Ingestion: Swallowing is not anticipated due to battery size. Choking may occur if smaller AAA batteries are swallowed. Ingestion of battery contents (from a leaking battery) may cause mouth, throat and intestinal burns and damage.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Amount
Manganese Dioxide	1313-13-9	35-40%
Zinc	7440-66-6	10-25%
Potassium Hydroxide (35%)	1310-58-3	5-10%
Graphite (natural or synthetic)	7782-42-5, 7440-44-0	1-5%

SECTION 4: FIRST AID MEASURES

Eye Contact: If battery is leaking and material contacts the eye, flush thoroughly with copious amounts of running water for 30 minutes. Seek immediate medical attention.

Skin Contact: If battery is leaking and material contacts the skin, remove any contaminated clothing and flush exposed skin with copious amounts of running water for at least 15 minutes. If irritation, injury or pain persists, seek medical attention.

Inhaled: If battery is leaking, contents may be irritating to respiratory passages. Move to fresh air. If irritation persists, seek medical attention.

Swallowed: If battery contents are swallowed, do not induce vomiting. If the victim is alert, have them rinse their mouth and the surrounding skin with water for at least 15 minutes. Seek immediate medical attention.

Note: This MSDS does not include or address the small button cell batteries which can be ingested.

SECTION 5: FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Batteries may burst and release hazardous decomposition products when exposed to a fire situation.

Extinguishing Media: Use any extinguishing media that is appropriate for the surrounding fire.

Special Fire Fighting Procedures: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Fight fire from a distance or protected area. Cool fire exposed batteries to prevent rupture. Use caution when handling fire-exposed containers (containers may rocket or explode in heat of fire).

Hazardous Combustion Products: Thermal degradation may produce hazardous fumes of zinc and manganese; hydrogen gas, caustic vapors of potassium hydroxide and other toxic by-products.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Notify safety personnel of large spills. Caustic potassium hydroxide may be released from leaking or ruptured batteries. Clean-up personnel should wear appropriate protective clothing to avoid eye and skin contact and inhalation of vapors or fumes. Increase ventilation. Carefully collect batteries and place in an appropriate container for disposal.

SECTION 7: HANDLING AND STORAGE

Avoid mechanical or electrical abuse. DO NOT short circuit or install incorrectly. Batteries may explode, pyrolyze or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions. Do not mix battery systems, such as alkaline and zinc carbon, in the same equipment. Replace all batteries in equipment at the same time. Do not carry batteries loose in a pocket or bag. Do not remove battery tester or battery label.

Storage: Store batteries in a dry place at normal room temperature. Do not refrigerate – this will not make them last longer.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

The following occupational exposure limits are provided for informational purposes. No exposure to the battery components should occur during normal consumer use.

Chemical Name	Exposure Limits
Manganese Dioxide	5 mg/m ³ Ceiling OSHA PEL 0.2 mg/m ³ TWA ACGIH TLV
Zinc	None established for zinc metal
Potassium Hydroxide	2 mg/m ³ Ceiling ACGIH TLV
Graphite (natural-non-fibrous)	15 mppcf TWA OSHA PEL 2 mg/m ³ TWA (respirable dust) ACGIH TLV
Graphite (synthetic non-fibrous)	5 mg/m ³ TWA (respirable dust), 15 mg/m ³ TWA (total dust) OSHA PEL 2 mg/m ³ TWA (respirable dust) ACGIH TLV

Ventilation: No special ventilation is needed for normal use.

Respiratory Protection: None required for normal use.

Skin Protection: None required for normal use. Use neoprene, rubber or latex gloves when handling leaking batteries.

Eye Protection: None required for normal use. Wear safety goggles when handling leaking batteries.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Copper top battery.

Specific Gravity: Not applicable

Water Solubility: Insoluble

Vapor Pressure: Not applicable

Vapor Density: Not applicable

Boiling Point: Not applicable

Melting Point: Not applicable

Flash Point: Not applicable

Autoignition Point: Not applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: This product is stable.

Incompatibility/Conditions to Avoid: Contents are incompatible with strong oxidizing agents. Do not heat, crush, disassemble, short circuit or recharge.

Hazardous Decomposition Products: Thermal decomposition may produce hazardous fumes of zinc and manganese; caustic vapors of potassium hydroxide and other toxic by-products.

Hazardous Polymerization: Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity Data:

Manganese Dioxide: LD50 oral rat >3478 mg/kg

Potassium Hydroxide: LD50 oral rat 273 mg/kg

Chronic Effects: The chemicals in this product are contained in a sealed can and exposure does not occur during normal handling and use. No chronic effects would be expected from handling a leaking battery.

Target Organs: Skin, eyes and respiratory system.

Carcinogenicity: None of the components of this product are listed as carcinogens by ACGIH, IARC, NTP or OSHA.

SECTION 12: ECOLOGICAL INFORMATION

No ecotoxicity data is available. This product is not expected to present an environmental hazard.

SECTION 13: DISPOSAL INFORMATION

Disposal should be in accordance with Federal, state/provincial and local regulations. Products covered by this MSDS, in their original form, when disposed as waste, are considered non hazardous waste according to Federal RCRA regulations (40 CFR 261).

Alkaline batteries can be safely disposed of with normal household waste. Due to concerns about mercury in the municipal solid waste stream, Duracell has voluntarily eliminated all of the added mercury from its alkaline batteries since 1993. Individual consumers may dispose of spent (used) batteries with household trash. Duracell does not recommend that spent batteries be accumulated and disposed of in large quantities. Do not incinerate except for disposal in a controlled incinerator.

Some communities offer recycling or collection of alkaline batteries – contact your local government for disposal practices in your area.

SECTION 14: TRANSPORT INFORMATION

Products covered by this MSDS, in their original form, are considered “dry cell” batteries and are not regulated for transportation as “DANGEROUS GOODS.” The batteries must be packaged in a manner that prevents the generation of a dangerous quantity of heat and short circuits.

For finished packaged product transported by ground (US DOT): – not regulated

For finished packaged product transported by sea (IMDG) – not regulated

For finished packaged product transported by air (IATA): – not regulated

Special provisions apply and shippers should consult the most current versions of the transportation regulations.

Special Provision A123 in the IATA Dangerous Goods Regulations and ICAO Technical Instructions and Special Provision 130 in 49 CFR 172.102 of the U.S. DOT regulations require alkaline batteries be packed in such a way to prevent short circuits or generating a dangerous quantity of heat. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words “not restricted” and the Special Provision number “A123” be provided on the air waybill, when an air waybill is issued. Special Provision 304 of the IMDG Code (Amdt. 33-06) provides batteries, dry, containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the provisions of this Code provided the batteries are securely packed and protected against short-circuits. Examples of such batteries are alkali-manganese, zinc-carbon, nickel-metal hydride and nickel-cadmium batteries.

SECTION 15: REGULATORY INFORMATION

United States

OSHA Status: While the finished product(s) is considered an article and not covered by the OSHA Hazard Communication Standard, 29 CFR 1910.1200, this MSDS contains valuable information critical to the safe handling and proper use of the product”.

EPA TSCA Status: All intentionally-added components of this product are listed on the US TSCA Inventory.

SARA 313/302/304/311/312 chemicals: Manganese compounds 35-40%, Zinc 10-25%

California: This product has been evaluated and does not require warning labeling under California Proposition 65.

State Right-to-Know and CERCLA:

The following ingredients present in the finished product are listed on state right-to-know lists or state worker exposure lists

Ingredient	CAS #	Level	CERCLA RQ	State				
				IL	MA	NJ	PA	RI
Manganese Dioxide	1313-13-9	35-40%	None	Y	Y	N	Y	Y
Zinc	7440-66-6	10-25%	1000 lb	Y	Y	Y	Y	N
Potassium Hydroxide	1310-58-3	5-10%	1000 lb	Y	Y	Y	Y	Y
Graphite	7782-42-5 7440-44-0	1-5%	None	Y	Y	N	Y	Y

Canada All intentionally-added components of this product are listed on the Canadian DSL. This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and this MSDS contains all information required by the Controlled Products Regulations.

SECTION 16: OTHER INFORMATION

P&G Hazard Rating: Health: 0 Fire: 0 Reactivity: 0

Data supplied is for use only in connection with occupational safety and health.

DISCLAIMER: This MSDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. The information contained here has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations.

This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. Procter & Gamble assumed no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the product.

SAFETY DATA SHEET

HCS-2012 APPENDIX D TO §1910.1200

Version 1
Product Name Lithium Ion Battery - ICR18650

Issue Date 11-Nov-2015
Revision Date 11-Nov-2015

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

Product identifier

Product Name Lithium Ion Battery - ICR18650
Chemical Name Lithium Ion Battery

Other means of identification

Voltage : 3.7V
Watt-Hour: 3.7Wh
Battery Weight: 30g

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 Guangzhou Great Power Energy & Technology Co., Ltd
Address No.912, West Village Segment, Shiliang Road, Shawan Town, Panyu District, Guangzhou, Guangdong Province,China
Postal Code 511483
Phone +86-20-39196828
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E-mail lcni@greatpower.net

Emergency telephone number

+86-20-39196828

2. HAZARDS IDENTIFICATION

GHS Classification

Not classified according to GHS as an article.

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

?.% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature Mixture

Chemical Name	CAS No	Weight-%
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Lithium Cobalt Oxide (CoLiO2)	12190-79-3	30 - 60
Graphite	7782-42-5	10 - 30
Phosphate(1-), hexafluoro-, lithium	21324-40-3	5 - 10
Dimethyl carbonate	616-38-6	5 - 10
Polypropylene	9003-07-0	1 - 5
Carboxymethyl cellulose	9000-11-7	1 - 5
Nickel	7440-02-0	1 - 5
Aluminum foil	7429-90-5	1 - 5

4. FIRST AID MEASURES

Description of first aid measures

General advice	No hazards which require special first aid measures.
Inhalation	Not an expected route of exposure.
Skin Contact	No special technical protective measures are necessary.
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
Keep product and empty container away from heat and sources of ignition
In the event of fire and/or explosion do not breathe fumes

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

Ensure adequate ventilation, especially in confined areas
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area)

Methods and material for containment and cleaning up

Pick up and transfer to properly labeled containers
Pick up and transfer to properly labeled containers

Should not be released into 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
 Keep away from heat, sparks, flame and other sources of ignition
 Do not eat, drink or smoke when using this product

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
Lithium Cobalt Oxide (CoLiO ₂) (CAS #: 12190-79-3)	TWA: 0.02 mg/m ³ Co	-	-	TWA: 0.01 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	-
Phosphate(1-), hexafluoro-, lithium (CAS #: 21324-40-3)	TWA: 2.5 mg/m ³ F	-	-	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	-
Aluminum foil (CAS #: 7429-90-5)	TWA: 1 mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ Al Aluminum	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust TWA: 5 mg/m ³ Al	TWA: 5 mg/m ³ TWA: 2 mg/m ³	-

Chemical Name	Latvia	France	Finland	Germany	Italy
Nickel (CAS #: 7440-02-0)	TWA: 0.05 mg/m ³	TWA: 1 mg/m ³	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³	Skin	-
Aluminum foil (CAS #: 7429-90-5)	TWA: 2 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 1.5 mg/m ³	TWA: 4 mg/m ³ TWA: 1.5 mg/m ³	-

Chemical Name	Poland	Portugal	Spain	Switzerland	Netherlands
Nickel (CAS #: 7440-02-0)	TWA: 0.25 mg/m ³	TWA: 1.5 mg/m ³	TWA: 1 mg/m ³	TWA: 0.5 mg/m ³	-
Aluminum foil (CAS #: 7429-90-5)	TWA: 2.5 mg/m ³ TWA: 1.2 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 3 mg/m ³	TWA: 0.05 mg/m ³

Chemical Name	Norway	United Kingdom	Australia	Austria	Belgium
Lithium Cobalt Oxide (CoLiO ₂) (CAS #: 12190-79-3)	-	-	-	Skin	-
Graphite (CAS #: 7782-42-5)	-	-	3 mg/m ³	STEL 10 mg/m ³ TWA: 5 mg/m ³	-
Phosphate(1-), hexafluoro-, lithium (CAS #: 21324-40-3)	-	-	2.5 mg/m ³	-	-
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	-	-
Aluminum foil (CAS #: 7429-90-5)	TWA: 5 mg/m ³ STEL: 10 mg/m ³	STEL: 30 mg/m ³ STEL: 12 mg/m ³ TWA: 10 mg/m ³ TWA: 4 mg/m ³	10 mg/m ³ 5 mg/m ³	STEL 20 mg/m ³ TWA: 10 mg/m ³	-

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas
Remove all sources of ignition

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	No special technical protective measures are necessary.
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	Silver
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 flammable
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

Extremes of temperature and direct sunlight

Incompatible materials

None known based on information supplied

Hazardous Decomposition Products

None known based on information supplied

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Inhalation of vapors in high concentration may cause irritation of respiratory system
Eye contact	Contact with eyes may cause irritation
Skin Contact	Substance may cause slight skin irritation Ingestion may cause irritation to mucous membranes

Information on toxicological effects

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Dimethyl carbonate (CAS #: 616-38-6)	= 13000 mg/kg (Rat)	> 5 g/kg (Rabbit)	= 140 mg/L (Rat) 4 h
Polypropylene (CAS #: 9003-07-0)	>5 g/kg	-	-
Nickel (CAS #: 7440-02-0)	> 9000 mg/kg (Rat)	-	-

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
Lithium Cobalt Oxide (CoLiO ₂) (CAS #: 12190-79-3)	A3	-	-	-
Nickel (CAS #: 7440-02-0)	-	Group 2B	Known Reasonably Anticipated	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
Lithium Cobalt Oxide (CoLiO2) (CAS #: 12190-79-3)	-	275 mg/L/96h(Fundulus heteroclitus)	-
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

Persistence and degradability

No information available

Bioaccumulative potential

No information available

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	-	-

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	Toxic
Nickel 7440-02-0	Toxic powder Ignitable powder
Aluminum foil 7429-90-5	Ignitable powder

14. TRANSPORT INFORMATION

DOT / IMDG / IATA

The polymer lithium ion batteries has passed the test UN38.3

According to packing instruction PI965~PI967 section II of IATA DGR 56th Edition for transportation or the special provision 188 of IMDG or 49CFR 173. 185.

The products are not subject to dangerous goods.

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

15. REGULATORY INFORMATION

International Inventories

Component	AICS	DSL/NDL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	TSCA
Lithium Cobalt Oxide (CoLiO2) 12190-79-3 (30 - 60)	X	X	X	X	X	X	-	X
Graphite 7782-42-5 (10 - 30)	X	X	X	-	X	X	X	X
Phosphate(1-), hexafluoro-, lithium 21324-40-3 (5 - 10)	X	X	X	X	X	X	X	X
Dimethyl carbonate 616-38-6 (5 - 10)	X	X	X	X	X	X	X	X
Cellulose, carboxymethyl ether 9000-11-7 (1 - 5)	X	X	-	-	X	-	-	-
Polypropylene 9003-07-0 (1 - 5)	X	X	-	X	X	X	X	X
Nickel 7440-02-0 (1 - 5)	X	X	X	-	X	X	X	X
Aluminum foil 7429-90-5 (1 - 5)	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 %
Nickel - 7440-02-0	0.1
Aluminum foil - 7429-90-5	1.0

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
Nickel 7440-02-0	-	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)
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
Nickel - 7440-02-0	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
Dimethyl carbonate 616-38-6	X	X	X
Aluminum foil 7429-90-5	X	X	X
Nickel 7440-02-0	X	X	X

16. OTHER INFORMATION**Revision Note**

Issue Date	11-Nov-2015
Revision date	11-Nov-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/NDL - 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.

----- End of Safety Data Sheet -----