



SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS 2015 (HPR-GHS), European Union CLP EC 1272/2008, REACH, Australian WorkSafe, the Japanese Industrial Standard JIS Z7253, the Korean ISHA (Notice 2009-68), SPRING Singapore, Mexican Workplace Regulations (NOM-018-STPS-2000), New Zealand HNSO and the Global Harmonization Standard

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

PRODUCT IDENTIFIER

<u>TRADE NAME (AS LABELED):</u>	BradyPrinter M611
<u>BRADY MODEL NUMBER:</u>	BMP-BATT-LI-1
<u>CHEMICAL NAME/CLASS:</u>	Lithium/Nickel/Manganese/Cobalt Chemistry
<u>SYNONYMS:</u>	BMP-BATT-LI-1
<u>PRODUCT USE:</u>	Battery Pack Contained within Handheld Printer
<u>UN NUMBER:</u>	Battery Packed within Equipment: UN 3481
<u>HAZCHEM CODE (Australia):</u>	4W

SUPPLIER OF THE SAFETY DATA SHEET

<u>U.S. SUPPLIER/MANUFACTURER'S NAME:</u>	Brady Worldwide
<u>ADDRESS:</u>	6555 West Good Hope Road Milwaukee, WI 53223 USA (414) 358-6600 [8 am to 5 pm CT] Infotrac: 1-800-535-5053 (U.S. and Canada) [24 hours]
<u>BUSINESS PHONE:</u>	
<u>EMERGENCY PHONE:</u>	
<u>EUROPEAN SUPPLIER/ DISTRIBUTOR'S NAME:</u>	WH Brady NV
<u>ADDRESS:</u>	Lindestraat 20 Industriepark C3 B - 9240 ZELE BELGIUM 0032/(0)52.45.79.05 [9 am to 5 pm] <u>REACH_Americas@bradycorp.com</u>
<u>BUSINESS PHONE:</u>	
<u>EMAIL:</u>	
<u>DATE OF PREPARATION:</u>	May 9, 2018
<u>DATE OF REVISION:</u>	New

This product has been classified in accordance with the hazard criteria of U.S. OSHA, Canadian WHMIS 2015 [HPR-GHS], European Union REACH and CLP, Australian [NOHSC:2011 (2015)], Singapore SPRING and Japanese Industrial Standard (JIS Z7253) required information is included. It is located in appropriate sections based on the Global Harmonization Standard format.

NOTE: This product is defined as an "Article" under all jurisdictions. Refer to Section 15 (Regulatory Information) for specific regulatory citations. As an article, this product presents negligible health and physical hazards under reasonably anticipated circumstances of use. Subsequently, a Safety Data Sheet is not required under Standards cited above. This document is prepared to provide persons using this product with additional safety information.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION, U.S. OSHA HAZARD COMMUNICATION STANDARD, CANADIAN WHMIS HPR-GHS 2015, EU CLP REGULATION (EC) 1272/2008 LABELING AND CLASSIFICATION, JAPANESE JIS Z 7253: 2012 LABELING AND CLASSIFICATION, KOREAN ISHA (Notice 2009-68) LABELING AND CLASSIFICATION, NEW ZEALAND HAZARDOUS SUBSTANCES and NEW ORGANISMS ACT (HNSO) CHEMICAL CLASSIFICATION (COP 8-1 09-06), OR AUSTRALIAN NOHSC STANDARDS: This product is an article and is not required to be classified under any jurisdiction.

The lithium ion cell ingredients are contained in a hermetically sealed case, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, hazardous materials are fully contained inside the battery. The printer and its battery should not be crushed, deformed, punctured, opened or exposed to heat because exposure to the ingredients contained within could be harmful under some circumstances. The following information is provided for the user's information only.

EMERGENCY OVERVIEW: Product Description: This product is a handheld, mobile printer with a non-removable lithium ion battery. **Health Hazards:** This product is considered a manufactured article and presents negligible health, physical or reactivity hazards under typical use conditions. If exposure to the battery's electrical solution occurs from puncture, heating or other destruction of the outer case, contact with the solution may be harmful by inhalation, skin or eye contact. Inhalation of fumes from burning electrolyte solution may cause burns to respiratory system. Skin or eye contact with the electrolyte solution may also produce burns, especially if contact is prolonged. Damage to the printer unit may present a hazard of electric shock under certain circumstances. **Flammability Hazards:** Batteries can explode during a fire. If involved in a fire, this product can burn and produce toxic gases (e.g. carbon, cobalt, copper, lithium, manganese, phosphorous, nickel oxides and other metal oxides, hydrogen fluoride, phosphine). During a fire involving this product care should be taken to avoid inhalation of fumes. During charging of the battery of this printer, a lithium graphite intercalation phase is formed (where lithium and graphite molecules are combined), which is highly flammable and corrosive, but is not released under normal circumstances. **Reactivity Hazards:** If the printer is somehow submerged, allowing water into the battery case, the electrolyte solution can react with water to form hydrofluoric acid. Contact of water with the anodes can produce hydrogen gas. **Environmental Hazards:** This product is not expected to cause harm if released to the environment. However the product must be disposed of properly in order to avoid environmental contamination. **Emergency Response Considerations:** Emergency responders must wear proper personal protective equipment (and have appropriate fire protection) suitable for the situation to which they are responding.

3. COMPOSITION and INFORMATION ON INGREDIENTS

Chemical Name	CAS #	EU EINECS #	Japanese ENC #	Australia n AICS	Chinese IECSC	Korean ECL #	New Zealand HNSO	% w/w	LABEL ELEMENTS GHS under U.S. OSHA, Canadian WHMIS HPR-GHS & EU Classification (1272/2008), Japanese, Taiwan, Chinese and Korean Regulations Korean ISHA Classification Hazard Statement Codes
The following individual compounds comprise parts of the battery unit of this product, including the case, electrolyte and electrodes.									
Aluminum Foil (non-pyrophoric solid)	7429-90-5	231-072-3	Mineral-exempt	Listed	Listed	KE-00881	HSR001263 (coated, PGII) HSR001471 (coated, PGIII) HSR001472 (uncoated, PGII) HSR001473 (coated, PGIII)	Proprietary	<u>Classification under All Jurisdictions:</u> Not Applicable for solid metal.
Carbon	7440-44-0	231-153-3	Mineral Exempt	Listed	Listed	KE-04671	HSR001271	Proprietary	NOTIFIED ECHA CLASSIFICATION <u>Classification under All Jurisdictions:</u> Classification: Eye Irritation Cat. 2A, STOT (Inhalation-Respiratory Irritation) SE Cat. 3 Hazard Statement Codes: H319, H335
Cobalt Lithium Manganese Nickel Oxide	182442-95-1	695-690-9	Not Listed	Listed	Listed	Not Listed	No Info on Registration Under HNSO	Proprietary	NOTIFIED ECHA CLASSIFICATION <u>Classification under All Jurisdictions:</u> Classification: Acute Inhalation Toxicity Cat.2, Skin Sensitization, Cat. 1B, Respiratory Sensitization Cat. 1B, STOT RE Cat. 1, Aquatic Chronic Toxicity Cat. 3 Hazard Statement Codes: H330, H317, H334, H372, H412
Copper Foil	7440-50-8	231-159-6	Mineral-exempt	Listed	Listed	KE-08896	HSR002948	Proprietary	<u>Classification under All Jurisdictions:</u> Not Applicable for solid metal.
Lithium Hexafluoro-phosphate (LiPF ₆)	21324-40-3	244-334-7	Not Listed	Listed	Listed	KE-22564	Not Listed	Proprietary	NOTIFIED EU ECHA CLASSIFICATION <u>Classification under All Jurisdictions:</u> Classification: Acute Oral Toxicity Cat. 3, Skin Corrosion/Damage Cat. 2B, STOT (Bones, Teeth) RE Cat. 1 Hazard Statement Codes: H301, H314, H372
Nickel	7440-02-0	231-111-4	Mineral-exempt	Listed	Listed	KE-08896	HSR002948	Proprietary	NOTIFIED ECHA CLASSIFICATION <u>Classification under All Jurisdictions:</u> Classification: Carcinogenic Cat. 2, Skin Sensitization Cat. 1, STOT (Inhalation-Respiratory Irritation) SE Cat. 3, STOT RE Cat. 1, Aquatic Chronic Toxicity Cat. 3 Hazard Statement Codes: H350i, H317, H371, H412
Plastic	Mixture	Mixture	Mixture	Mixture	Mixture	Mixture	Mixture	Proprietary	<u>Classification under All Jurisdictions:</u> Not Applicable.
Polyvinylidene Fluoride (PVDF)	24937-79-9	Exempt as a Polymer	6-933	Listed	Listed	KE-10546	May be used as a single component chemical under an appropriate group standard	Proprietary	<u>Classification under All Jurisdictions:</u> Not Applicable.
Steel	7439-89-6	231-096-4	Mineral-exempt	Listed	Listed	KE-21059		Proprietary	<u>Classification under All Jurisdictions:</u> Not Applicable for solid metal.
Other proprietary inert compounds								Balance	<u>Classification under All Jurisdictions:</u> Not Applicable.

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret is required.
See Section 16 for full text of classification.

4. FIRST-AID MEASURES

PROTECTION OF FIRST AID RESPONDERS: Rescuers should be taken for medical attention, if necessary. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary.

DESCRIPTION OF FIRST AID MEASURES: Persons using this product should consult a physician or other medical professional if an accident involving this product results in injury. Specific first-aid measures are as follows:

Eye or Skin Contact: If skin or eye contact occurs to electrolyte solution, flush for 20 minutes. Contact physician or other medical health professional.

Inhalation: If any adverse effect occurs as a result of inhalation of fumes from thermal decomposition of the electrolyte solution during fire or other heating of battery, remove individual to fresh air. Seek medical attention if adverse effect occurs after removal to fresh air.

Ingestion: Not a potential route of exposure.

IMPORTANT SYMPTOMS AND EFFECTS: Acute: See Section 11. Chronic: See Section 11.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: No medical conditions are known to be aggravated by this product.

IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED: Treat symptoms and eliminate exposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABLE LIMITS (in air by volume, %): Not applicable.

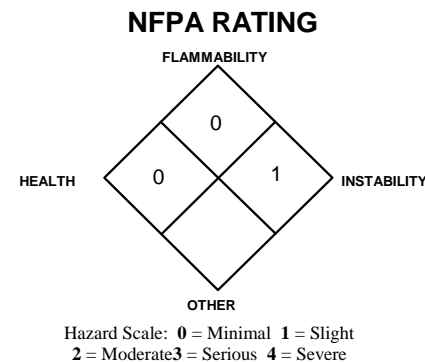
FIRE EXTINGUISHING MEDIA: Dry chemical powder, dry sand or dolomite or other metal fire extinguishing material. Carbon dioxide should only be used on incipient fires.

UNSUITABLE FIRE EXTINGUISHING MEDIA: Water.

SPECIAL FIRE AND EXPLOSION HAZARDS: Batteries within this product can explode in a fire. Contact with the electrolyte solution and water can produce hydrofluoric acid. Contact with water and the charged anode will produce hydrogen gas. Products of thermal decomposition can include toxic gases (e.g. carbon, cobalt, copper, lithium, manganese, phosphorous, nickel oxides and other metal oxides, hydrogen fluoride, phosphine). Damaged or opened cells or batteries can result in rapid heating and the release of flammable vapors. Vapors may be heavier than air and may travel along the ground or be moved by ventilation to an ignition source and flash back.

Explosion Sensitivity to Mechanical Impact or to Static Discharge: Not applicable.

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment.



6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Eliminate all sources of ignition before cleanup begins. Use non-sparking tools. The atmosphere must have levels of components lower than those listed in Section 8, (Exposure Controls and Personal Protective Equipment) if applicable, and have at least 19.5 percent oxygen before personnel can be allowed into the area without Self-Contained Breathing Apparatus (SCBA).

PERSONAL PROTECTIVE EQUIPMENT: For clean-up of leaking electrolyte solution, proper protective equipment should be used. In the event of a spill, clear the area and protect people.

Small Spills: Wear rubber gloves, splash goggles, and appropriate body protection.

Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard hat, and Self-Contained Breathing Apparatus.**

METHODS FOR CLEAN-UP AND CONTAINMENT: No special accidental release measures are required for non-damaged product. Damaged product batteries that are not hot or burning should be placed in a sealed container and disposed of according to all disposal regulations. The following information is in the event that the electrolyte solution has somehow escaped the case of the battery.

Small Spills: Wipe up spilled liquid with polypads or other suitable absorbent materials. Wash contaminated area with soap and water, absorb with paper towels, and rinse with water.

Large Spills: Trained personnel following pre-planned procedures should handle non-incident releases. Absorb spilled liquid with dry sand or other suitable non-reactive absorbent materials. Prevent material from entering sewer or confined spaces, waterways, soil or public waters. Monitor area and confirm levels are below exposure limits given in Section 8 (Exposure Controls-Personal Protection), if applicable, before non-response personnel are allowed into the spill area.

All Spills: Place all spill residue in an appropriate container and seal. Decontaminate the area thoroughly. If necessary, discard all stained response equipment or rinse with soapy water before returning such equipment to service. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). For spills on water, contain, minimize dispersion and collect. Dispose of recovered material and report spill per regulatory requirements.

ENVIRONMENTAL PRECAUTIONS: Prevent any spill residue from entering sewer or confined spaces.

7. HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING: Store away from acids, sources of heat or flame, or other incompatible materials as listed in Section 10 (Stability and Reactivity).

Should the product and/or the permanently installed battery unintentionally be crushed, thus releasing its contents, rubber gloves must be used to handle all battery components. Avoid inhalation of any vapors that may be emitted. In the event of skin or eye exposure to the electrolyte, refer to Section 4, First Aid Measures. The product should be separated from and stored in a noncombustible, well ventilated, sprinkler-protected structure with sufficient clearance between walls and incompatible materials.

The following information is from the Brady Lithium Battery Instructions and Precautions document:

PRODUCTS THAT CONTAIN A LITHIUM-ION BATTERY HANDLING PRECAUTIONS

Before using the battery pack, read these important instructions. Failure to follow these instructions may result in electric shock, fire, and/or serious personal injury.

- 1. Do not disassemble, open, or modify this printer.** This may result in the risk of electric shock, fire or exposure to battery chemicals. If it is damaged, dispose of properly according to regulations for products that contain lithium ion batteries.
- 2. Do not short circuit the battery within the printer.** The battery pack contained in this product will short circuit if a metal object makes a connection between the positive and negative contacts on the battery. Do not transport or store the product together with metal objects such as tools, hardware, etc. A short-circuited battery may cause fire and personal injury.
- 3. Do not expose this printer to heat or fire, avoid storage in direct sunlight.** Batteries within this product may explode, causing personal injury or damage. Toxic fumes and materials are created when batteries are burned.
- 4. Do not expose the product to water or rain or allow it to get wet.** Otherwise, the protective features in the battery pack of this product can be damaged; the pack can exhibit extremely high current and or voltage, abnormal chemical reactions may occur in the pack, possibly leading to overheating, smoke emission, bursting and/or ignition.
- 5. Do not crush, drop, or damage this product.** Do not use the printer when it has received a sharp blow, been dropped, run over, or damaged in any way (e.g., pierced with a nail, hit with a hammer, stepped on).

7. HANDLING and STORAGE (Continued)

PRECAUTIONS FOR SAFE HANDLING (continued):

PRODUCTS THAT CONTAIN A LITHIUM-ION BATTERY HANDLING PRECAUTIONS (continued)

6. Observe the plus (+) and minus (-) marks on the battery pack and ensure correct use. If you cannot easily connect the product to its designated charger, confirm that the correct AC charger adapter specifically designed for charging is used for charging. Using the improper charger adapter could result in reverse-charging and abnormal chemical reaction may occur, then possibly leading to leakage, overheating, smoke emission, bursting and/or ignition of the battery pack.
7. Recharge the battery pack outside the printer using the charger adapter specifically designed for that purpose and observe the recharging conditions specified by the manufacturer. A recharging operation under non-conforming recharging conditions (beyond the limits of temperature and larger voltage/current than specified) can cause the battery pack to be overcharged, or charged with extremely high current, abnormal chemical reaction can occur in it, possibly leading to overheating, smoke emission, bursting and/or ignition.
8. Do not use the product for a purpose other than those specified. Misuse of the product may damage the battery pack, shorten battery pack life, result in risk of fire, electric shock or personal injury.

CONDITIONS FOR SAFE STORAGE: Do not expose the printer to water or rain or allow it to get wet. This may damage the battery pack or printer. Do not use oil or solvents to clean or lubricate this product. The plastic casing will become brittle and crack, causing a risk of injury. Store the product in a cool, dry place. Do not the printer where temperatures may exceed 60°C (140°F) such as in direct sunlight, a vehicle or metal building during summer. Charger will charge the battery when the battery's internal temperature is between 0°C (32°F) and 45°C (113°F). When the battery pack temperature range is outside that range, charging will not occur. Dispose of Brady Lithium Ion Batteries according to federal, state and local regulations. Contact a recycling agency in your area for recycle locations.

SPECIFIC END USE(S): Handheld, mobile printer.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

Ventilation and Engineering Controls: No engineering controls are required for this product when it has not been damaged.

Exposure Limits/Control Parameters: The following limits are for the components. This information is for information purposes only, as exposure to these compounds is unlikely during normal use and handling of this product.

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR							
		ACGIH-TLVs		OSHA-PELs		NIOSH-RELs		NIOSH	OTHER
		TWA mg/m ³	STEL mg/m ³	TWA mg/m ³	STEL mg/m ³	TWA mg/m ³	STEL mg/m ³	IDLH mg/m ³	
Aluminum Foil (aluminum metal & insoluble compounds)	7429-90-5	1 (resp. fract.)	NE	15 (total dust), 5 (resp. fract.)	NE	10 (total dust), 5 (resp. fract.)	NE	NE	DFG MAKs: TWA: 4 (inhalable fract.); 1.5 (resp. fract.) DFG Pregnancy Risk Classification: D Carcinogen: IARC-1 (production only), TLV-A4
Carbon	7440-44-0	NE	NE	NE	NE	NE	NE	NE	NE
Cobalt Lithium Manganese Nickel Oxide Exposure limits given are for:	182442-95-1	NE	NE	NE	NE	NE	NE	NE	NE
Cobalt & inorganic compounds, as Co		0.02; NIC: 0.02 (inhal. fract.) NIC: DSEN, RSEN	NE	0.1 (metal dust & fume)	NE	0.05 (metal dust & fume)	NE	20 (as Co)	Carcinogen: TLV-A3
Lithium Compounds, inorganic, as Li		NE	NE	NE	NE	NE	NE	NE	DFG MAKs: TWA: 0.2 (inhalable fract.) PEAK: 1●MAK, Excursion factor 1, (15 min. average value, 4 per shift, 1-hr interval) DFG MAK Pregnancy Risk Classification: C
Manganese and inorganic compounds & fume (as Mn)		0.02 (resp. fract.), 0.1 (inhal. fract.)	NE	NE	5 (ceiling g)	1	3	500 (as Mn)	DFG MAKs: TWA: 0.2 (inhalable fract.), 0.02 (resp. fract.) PEAK: 8●MAK, Excursion factor 2, (15 min. average value, 4 per shift, 1-hr interval) DFG MAK Pregnancy Risk Classification: C
Nickel & insoluble compounds, as Ni		0.02 (inhal. fract.)	NE	1	NE	0.015 (as Ni) See Pocket Guide Appendix A	NE	10 (as Ni), CA	Carcinogen: NIOSH-Ca, NTP-K, TLV-A3
Copper Foil Exposure limits given are for copper & its inorganic compounds, & fume, as Cu	7440-50-8	Fume: 0.2	NE	Fume: 0.2	NE	Fume: 0.1	NE	Fume: 100 (AS Cu)	DFG MAKs: TWA: 0.01 (resp. fract.) PEAK: 2●MAK, Excursion factor 2, (15 min. average value, 4 per shift, 1-hr interval) DFG MAK Pregnancy Risk Classification: C Carcinogen: IARC-3; Fume: EPA-D

NE: Not Established. NIC: Noticed of Intended Change DSEN: May Cause Dermal Sensitization. RSEN: May Cause Respiratory Sensitization See Section 16 for Definitions of Other Terms Used

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

EXPOSURE LIMITS/CONTROL PARAMETERS (continued):

Exposure Limits/Control Parameters (continued):

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR							OTHER mg/m ³
		ACGIH-TLVs		OSHA-PELs		NIOSH-RELS		NIOSH IDLH mg/m ³	
		TWA mg/m ³	STEL mg/m ³	TWA mg/m ³	STEL mg/m ³	TWA mg/m ³	STEL mg/m ³		
Lithium Hexafluorophosphate The exposure limits given are for lithium oxide, lithium hydroxide & fluorides	21324-40-3	NE	NE	NE	NE	NE	NE	NE	Lithium Oxide, Lithium Hydroxide AIHA: STEL = 1 (ceiling)
Fluorides, as F		2.5	NE	2.5	NE	2.5	NE		DFG MAKs TWA: 4 (inhalable fraction), Skin PEAK: 4●MAK, Excursion factor 2, (15 min. average value, 4 per shift, 1-hr interval DFG MAK Pregnancy Risk Classification: C Carcinogen: TLV-A3
Nickel	7440-02-0	1.5 (inhal. fract.)	NE	1	NE	0.015 (as Ni) See Pocket Guide Appendix A	NE	10 (as Ni) Ca	DFG MAK: Inhalable Fraction; Danger of Sensitization of the Airways & the Skin Carcinogen: IARC-2B, MAK-1, NIOSH-Ca, NTP-K, TLV-A5
Plastic	Mixture	NE	NE	NE	NE	NE	NE	NE	NE
Polyvinylidene Fluoride (PVDF)	24937-79-9	NE	NE	NE	NE	NE	NE	NE	NE
Steel	7439-89-6	NE	NE	NE	NE	NE	NE	NE	NE

NE: Not Established. See Section 16 for Definitions of Other Terms Used

Additional International Exposure Limits: Additional international limits are in place for components. The ones given are related to the Lithium Hexafluorophosphate component, which is part of the electrolyte component, and which poses the most likely compound to present an exposure hazard. Exposure limits can change or be added and should be checked for currency.

Australian Hazardous Chemical Information System (HMIS) Exposure Standards:

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR		
		TWA mg/m ³	STEL mg/m ³	Notes
Fluorides, as F		2.5	NE	Not Applicable

NE = Not Established.

UK Minimum Exposure Limits:

CHEMICAL NAME	CAS #	WORKPLACE EXPOSURE LIMIT				Comments
		Long-Term Exposure Limit (8-Hrs TWA Reference Period)		Short-Term Exposure Limit (15-minute Reference Period)		
		ppm	mg.m ⁻³	ppm	mg.m ⁻³	
Fluorides, as F	16984-48-8	NE	2.5	NE	NE	Not Applicable
Lithium Hydroxide	1310-65-2	NE	NE	NE	1	Not Applicable

NE = Not Established.

ACGIH Biological Exposure Indices (BEIs): Currently, the following Biological Exposure Indices (BEIs) have been established for the Potassium Dichromate component (as a Chromium (VI) compound of this product.

CHEMICAL: DETERMINANT	SAMPLING TIME	BEI
Fluorides (as F) • Fluoride in Urine • Fluoride in Urine	• Prior to Shift • End of Shift	• 2 mg/L • 3 mg/L

UK Biological Monitoring Guidance Values (BMGVs): Currently, no BMGVs have been established for the components of the electrolyte solution.

SAFE WORK AND HYGIENE PRACTICES: Do not short circuit, puncture, incinerate, crush, immerse, force discharge or expose to temperatures above the declared operating temperature range of the product. In event of release of electrolyte fluid, avoid contact by all routes of exposure.

PROTECTIVE EQUIPMENT: The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132), U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), 29 CFR 1910.133 for eye protection, 29 CFR 1910.138 for hand protection, 29 CFR 1910.136 for foot protection, equivalent standards of Canada (including CSA Standard Z94.4-02, CSA Standard Z94.3-02, CSA Standard Z94.4-93 for respiratory protection, CSA Standard Z94.3-M1982, *Industrial Eye and Face Protectors* and CSA Standard Z195-M1984, *Protective Footwear*), or standards of EU member states (including EN 529:2005 for respiratory PPE, CEN/TR 15419:2006 for hand protection, and CR 13464:1999 for face/eye protection); or, for the AS/NZS 1336:1997: Recommended practices for occupational eye protection; AS/NZS 1337 part 1-6: Eye protectors for industrial applications; AS/NZS 1715:2009: Selection, use and maintenance of respiratory protective devices; AS/NZS 1716:2003: Respiratory protective devices; AS/NZS 2161 Set: 2008: Occupational protective gloves; AS/NZS 2210.1:2010: Safety, protective and occupational footwear - Guide to selection, care and use; AS/NZS 2210.2:2009: Occupational protective footwear - Test methods; AS/NZS 4503 part 1-3: Protective clothing - Protection against liquid chemicals - Test method: Resistance of materials to permeation by liquids and standards of Mexico. Please reference applicable regulations and standards for relevant details.

Respiratory Protection: No special respiratory protection is required for use of this product during normal use.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

PROTECTIVE EQUIPMENT (continued):

Eye Protection: No special eye protection is required for use of this product. If batteries are damaged or leaking during product use, use safety goggles when handling the damaged product until disposed of properly.

Hand Protection: No special hand protection is normally required for use of this product. If batteries are damaged or leaking use wear butyl rubber, polyvinyl alcohol gloves or other appropriate glove.

Body/Skin Protection: No special body or skin protection is normally required for use of this product. If a hazard of injury to the feet exists due to falling objects or rolling objects use foot protection, as described in U.S. OSHA 29 CFR 1910.136 and the Canadian CSA Standard Z195-02, *Protective Footwear*.

9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Manufactured article containing a lithium ion battery with an electrolyte solution.

COLOR: Various parts have different colors.

MOLECULAR FORMULA: Mixture.

ODOR: Not applicable.

RELATIVE VAPOR DENSITY (air = 1): Not applicable.

SPECIFIC GRAVITY (water = 1): Not available.

SOLUBILITY IN WATER: Insoluble.

VAPOR PRESSURE: Not applicable.

HEAT OF COMBUSTION: Not available.

OXIDIZING PROPERTIES: Not an oxidizer.

EXPLOSIVE PROPERTIES: Heating or water contact may cause overpressure of outside casing and possible explosive result.

COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not applicable.

MOLECULAR WEIGHT: Mixture.

ODOR THRESHOLD: Not applicable.

EVAPORATION RATE: Not applicable.

MELTING/FREEZING POINT: Not available.

BOILING POINT: Not applicable.

pH: Not applicable.

THERMAL CONDUCTIVITY: Not available.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable.

DECOMPOSITION PRODUCTS: Combustion: carbon, cobalt, copper, lithium, manganese, phosphorous, nickel oxides and other metal oxides, hydrogen fluoride, phosphine). Hydrolysis: Contact with the electrolyte solution and water can produce hydrofluoric acid. Contact with water and the charged anode will produce hydrogen gas.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: The electrolyte solution is incompatible with potassium tert-butoxide, oxidizers, reducing agents, acids and alkalis.

POSSIBILITY OF HAZARDOUS REACTION/POLYMERIZATION: This product and its intact batteries are not reactive. If the electrolyte solution inside the battery contacts water, a reaction generating heat may occur. Polymerization will not occur.

CONDITIONS TO AVOID: Avoid damaging the printer and its battery in any way that could release electrolyte solution. Avoid exposure to heat, flame, or other ignition source. Avoid contact with water. Avoid overcharging of batteries or other conditions as described in Section 7 (Handling or Storage).

11. TOXICOLOGICAL INFORMATION

SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE:

Inhalation: Under normal conditions of use and handling, no inhalation hazard is present. If battery inside the printer is heated fumes from the electrolyte solution can cause moderate to severe irritation of the respiratory system.

Skin or Eye Contact: Under normal conditions of use and handling, no skin or eye hazard is present. If the battery case is punctured or otherwise damaged so that contact with the electrolyte solution occurs, contamination of the skin or eyes can be highly irritating or cause burns. Fumes from heated electrolyte solution will cause irritation of the eyes. Although very unlikely, contact with the electrodes may result in electric shock under certain circumstances of contact.

Skin Absorption: Some components of the electrolyte solution may be absorbed via intact skin. Due to the small amount of solution in the battery, significant toxic effect by this route of exposure is not expected.

Ingestion: Ingestion is not a likely route of exposure to the electrolyte solution.

Injection: Injection is not a likely route of exposure to the electrolyte solution.

HEALTH EFFECTS OR RISKS FROM EXPOSURE:

Acute: There is no health hazard anticipated to occur during routine use of this product. If damage or heating of the printer and sealed battery occurs, contact with the electrolyte solution or fumes from heating of the solution may cause moderate to severe irritation of skin, eyes and respiratory system.

Chronic: None known.

TARGET ORGANS: Acute: Respiratory system, skin, eyes (fumes from thermal decomposition). Chronic: None.

TOXICITY DATA: The following toxicity data is presented for components of the electrolyte solution only.

LITHIUM HEXAFLUOROPHOSPHATE:

(Skin-Human) Causes Severe Burns; Skin Corrosion: Human skin model test

(In Vivo Assay-Mouse) Does not cause skin sensitization under OECD Test Guideline 429

Germ Cell Mutagenicity (Ames test-S. typhimurium) Negative

CARCINOGENICITY: Fluorides (part of the electrolyte solution) are listed by agencies tracking the carcinogenic effect of chemical compounds, as follows.

ACGIH TLV-A4 (Not Classifiable as a Human Carcinogen)

Some components of the case material are listed. Due to the physical nature of this product, carcinogenicity is not a hazard for this product.

IRRITANCY OF PRODUCT: This product is not irritating under normal circumstances of use or handling. Fumes from thermal decomposition are irritating by inhalation, skin or eye contact.

SENSITIZATION TO THE PRODUCT: Contact with this product does not pose a hazard of sensitization.

REPRODUCTIVE TOXICITY INFORMATION: As an article, this product is not expected to cause mutagenic, embryotoxic, teratogenic, or reproductive effects in humans.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY IN SOIL: Due to the form of this product, it is unlikely that it will be mobile in the soil.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability. The case of this product will not biodegrade.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential. Some materials within the battery are bio-accumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment.

ECOTOXICITY: This product is not expected to cause significant harm to plant and animal-life in its current form; however, all disposal should be according to current regulations. This product has not been tested for aquatic toxicity. All release of this product into an aquatic or terrestrial environment should be prevented.

RESULTS OF PBT and vPvB ASSESSMENT: No data available. PBT and vPvB assessments are part of the chemical safety report required for some substances in European Union Regulation (EC) 1907/2006, Article 14.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT AND DISPOSAL METHODS: Dispose of in accordance with applicable International, Federal, State, and local procedures and standards. Batteries within this product should be completely discharged prior to disposal and/ or the terminals taped or capped to prevent short circuit. When completely discharged the product and its battery are not considered hazardous. Products containing lithium ion batteries must be handled in accordance with all applicable state and federal laws and regulations.

In the U.S. Lithium ion batteries are recyclable in the U.S. through the Rechargeable Battery Recycling Corporation's (RBRC) *Charge Up to Recycle! Program*. For information call 1-800-8-BATTERY or see their website at www.rbr.org.

In the EU manufacturing, handling and disposal of batteries is regulated under Directive 2006/66/EC. Specific information on disposal of batteries by country can be found at website of the European Portable Batteries Association (http://www.epbaeurope.net/legislation_national.html).

PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING: Do not mix products with different types of batteries with different chemistries in the same containers for disposal. Electrodes of each battery should be covered to prevent contact with other batteries, if packed together, to prevent possible fire.

U.S. EPA WASTE NUMBER: Not applicable.

EWC WASTE CODE: 16 06 05: Other batteries and accumulators. 16 06 06: Electrolyte from batteries and accumulators. 17 04 07 Mixed metals.

14. TRANSPORTATION INFORMATION

The following is general information on requirements for U.S. DOT shipping requirements of lithium ion batteries, based on size and weights.

Secondary Lithium Ion Cells and Batteries Equivalent Lithium ¹ Content Limits (Cell/Battery)	Battery Size ²	Shipping Classification	Special Packaging/Markings Required
≤1.5 grams/≤8.0 grams	Small	Excepted	Yes ³
Between 1.5g and 5g/ Between 8g and 25g	Medium	Class 9 ⁴	Yes ⁴
>5.0 g / >25.0 g	Large	Class 9	Yes ⁵

Notes:
 1 – Equivalent Lithium Content (ELC) = 0.3 x rated capacity (Ah) x # of cells (for packs)
 2 – The sizes noted here are based solely on U.S. DoT definitions in 49CFR. These are not the same as ICAO/IATA size definitions, or UN Manual of Tests size definitions.
 3 – Packages containing more than 12 batteries or 24 cells must meet certain packaging, marking and shipping paper requirements.
 4 – Must be shipped as Class 9 hazardous materials *unless transported by motor vehicle or rail*.
 5 – Requires Class 9 markings, label, specified packaging and appropriate shipping papers.

International regulations vary over U.S. DOT shipping regulations and have only two size categories, as outlined in the following table.

Secondary Lithium Ion Cells and Batteries Watt-hour ¹ Limits (Cell/Battery)	Shipping Classification	Special Packaging/Markings
20Wh / 100Wh	Excepted	Yes
>20Wh / >100Wh	Class 9	Yes

Notes:
 1 – Watt-hours = rated capacity (Ah) X nominal operating voltage (V).

14. TRANSPORTATION INFORMATION (Continued)

U.S. DEPARTMENT OF TRANSPORTATION 49 CFR 172.101: This product is classified as Dangerous Goods, per regulations of the DOT. All provisions of 40 CFR 173.185 must be met, including markings and labels.

UN Identification Number: UN 3481
Hazard Materials Description and Proper Shipping Name: Lithium ion batteries contained in equipment or lithium ion batteries packed within equipment (including lithium ion, polymer batteries)
Hazard Class or Division: 9 (Miscellaneous Lithium Battery)
Packing Group: II
Label Codes: Class 9 (Miscellaneous Lithium Battery)
Special Provisions: 181, 422, A54
Packaging: Exceptions: 185; Bulk: 185; Non-Bulk: 185
Quantity Limitations: Passenger Aircraft: 5 kg; Cargo Aircraft Only: 35 kg
Vessel Storage: Location: A; Other: None
Emergency Response Guidebook Number (2016): 147

Marine Pollutant: This product does not meet the criteria of a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B).

Under U.S. DOT Hazardous Material Regulations (HMR), Special Provisions 181 and 182 may be applicable.

SP181: When a package contains a combination of lithium batteries contained in equipment and lithium batteries packed with equipment, the following requirements apply:

- The shipper must ensure that all applicable requirements of §173.185 of this subchapter are met. The total mass of lithium batteries contained in any package must not exceed the quantity limits in columns (9A) and (9B) for passenger aircraft or cargo aircraft, as applicable;
- Except as provided in §173.185(c)(3) of this subchapter, the package must be marked "UN 3091 Lithium metal batteries packed with equipment", or "UN 3481 Lithium ion batteries packed with equipment," as appropriate. If a package contains both lithium metal batteries and lithium ion batteries packed with and contained in equipment, the package must be marked as required for both battery types. However, button cell batteries installed in equipment (including circuit boards) need not be considered; and
- The shipping paper must indicate "UN 3091 Lithium metal batteries packed with equipment" or "UN 3481 Lithium ion batteries packed with equipment," as appropriate. If a package contains both lithium metal batteries and lithium ion batteries packed with and contained in equipment, then the shipping paper must indicate both "UN 3091 Lithium metal batteries packed with equipment" and "UN 3481 Lithium ion batteries packed with equipment."

SP182 Equipment containing only lithium ion batteries must be classified as UN 3481.

As of 1 January 2017: a new hazard label came into effect with a 2-year transitional period during which time either the existing Class 9 Miscellaneous Dangerous Goods hazard label or the new Class 9 Lithium Battery hazard label may be applied to packages containing lithium batteries prepared in accordance with Section I, IA or IB of the lithium battery packing instructions. Also a new mark came into effect with a 2-year transition period during which time either the lithium battery mark or the lithium battery handling label may be applied to packages containing lithium batteries prepared in accordance with Section IB or Section II of the lithium battery packing instructions. The need for an additional document to accompany the consignments is no longer required.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is classified as Dangerous Goods, per regulations of Transport Canada. The use of the above U.S. DOT information from the U.S. 49 CFR regulations is allowed for shipments that originate in the U.S. For shipments via ground vehicle or rail that originate in Canada, the following information is applicable.

UN No.: 3481 (SOR/2017-137)
Name and Description: Lithium ion batteries contained in equipment or lithium ion batteries packed within equipment (including lithium ion, polymer batteries)
Hazard Class Number and Description: Class 9 (Miscellaneous Lithium Battery)
Packing Group: None
Hazard Label(s) Required: Class 9 (Miscellaneous Lithium Battery)
Special Provisions: 34, 123, 137, 138, 159
Explosive Limit and Limited Quantity Index: 0
Excepted Quantities: E0
ERAP Index: None
Passenger Carrying Ship Index: None
Passenger Carrying Road or Rail Vehicle Index: 5 kg
Marine Pollutant: This product does not meet the criteria of a Marine Pollutant under Transport Canada regulations, as per TDG 2.7.

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is classified as dangerous goods, per the International Air Transport Association. Effective April 1, 2016, lithium ion cells and batteries must be offered for transport **at a state-of-charge (SoC) not exceeding 30% of their rated design capacity.**

UN Identification Number: UN 3481
Proper Shipping Name/Description: Lithium ion batteries contained in equipment (including lithium ion, polymer batteries)
Hazard Class or Division: 9 (Miscellaneous Lithium Battery)
Hazard Label(s) Required: Class 9 (Miscellaneous Lithium Battery)
Packing Group: None
Excepted Quantities: E0
Passenger and Cargo Aircraft Packing Instruction: Forbidden
Passenger and Cargo Aircraft Packing Maximum Net Quantity per Pkg.: Forbidden
Passenger and Cargo Aircraft Packing Limited Quantity Packing Instruction: 967
Passenger and Cargo Aircraft Packing Limited Quantity Maximum Net Quantity per Pkg.: 5 kg
Cargo Aircraft Only Packing Instruction: 967
Cargo Aircraft Only Maximum Net Quantity per Pkg.: 35 kg
Special Provisions: A48, A88, A99, A154, A164, A181, A185, A206
ERG Code: 9F

14. TRANSPORTATION INFORMATION (Continued)

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is classified as dangerous goods, per the International Air Transport Association. Effective April 1, 2016, lithium ion cells and batteries must be offered for transport **at a state-of-charge (SoC) not exceeding 30% of their rated design capacity.**

UN Identification Number: UN 3481
Proper Shipping Name/Description: Lithium ion batteries packed with equipment (including lithium ion, polymer batteries)
Hazard Class or Division: 9 (Miscellaneous Lithium Battery)
Hazard Label(s) Required: Class 9 (Miscellaneous Lithium Battery)
Packing Group: None
Excepted Quantities: E0
Passenger and Cargo Aircraft Packing Instruction: Forbidden
Passenger and Cargo Aircraft Packing Maximum Net Quantity per Pkg.: Forbidden
Passenger and Cargo Aircraft Packing Limited Quantity Packing Instruction: 966
Passenger and Cargo Aircraft Packing Limited Quantity Maximum Net Quantity per Pkg.: 5 kg
Cargo Aircraft Only Packing Instruction: 966
Cargo Aircraft Only Maximum Net Quantity per Pkg.: 35 kg
Special Provisions: A88, A99, A154, A164, A181, A185, A206
ERG Code: 9F

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is classified as dangerous goods, per the International Maritime Organization.

UN No.: 3481
Proper Shipping Name: Lithium ion batteries contained in equipment or lithium ion batteries packed within equipment (including lithium ion, polymer batteries)
Hazard Class Number: 9 (Miscellaneous Lithium Battery)
Hazard Label: Class 9 (Miscellaneous Lithium Battery)
Packing Group: None
Special Provisions: 188, 230, 310, 348, 360, 376, 377, 384
Limited Quantities: 0
Excepted Quantities: E0
Packing Instructions: Instructions: P903, P908, P909, P910, LP903, LP904; Provisions: None
IBC Information: Instructions: None, Provisions: None
Tanks: Instructions: None, Provisions: None
EmS: F-A, S-I
Stowage Category: Category A, SW19
Segregation: None
Marine Pollutant: No component is a Marine Pollutant under UN criteria or is specifically listed in the MARPOL 73/78 Annex III.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This compound is classified by the Economic Commission for Europe to be dangerous goods.

UN No.: 3481
Name and Description: Lithium ion batteries contained in equipment or lithium ion batteries packed within equipment (including lithium ion, polymer batteries)
Class: Class 9 (Miscellaneous Lithium Battery)
Classification Code: M4
Packing Group: None
Labels: 9A
Special Provisions: 188, 230, 310, 348, 360, 376, 377, 636
Limited Quantities: 0
Excepted Quantities: E0
Packing Instructions: Instructions: P903, P908, P909, P910, LP903, LP904
Special Packing Provisions: None
Mixed Packing Provisions: None
Portable Tanks and Bulk Containers: None
Hazard Identification No.: None

AUSTRALIAN FEDERAL OFFICE OF ROAD SAFETY CODE FOR THE TRANSPORTATION OF DANGEROUS GOODS BY ROAD OR RAIL: This product is classified as dangerous goods under the Australian Dangerous Goods Code.

UN No.: 3481
Name and Description: Lithium ion batteries contained in equipment or lithium ion batteries packed within equipment (including lithium ion, polymer batteries)
Class or Division: 9 (Miscellaneous Lithium Battery)
Packing Group: None
Labels: Class 9 (Miscellaneous Lithium Battery)
Special Provisions: 188, 230, 360, 348, 360, 376, 377, 636
Limited Quantities: 0
Packing and IBCs: Instructions: P903, P903, P909, LP903, LP904; Special Packing Provisions: None
Portable Tanks and Bulk Containers: Instructions: None, Special Provisions: None
Hazard Identification No.: None
HazChem Code: 4W

IN BULK ACCORDING TO THE IBC CODE: See the information under the individual jurisdiction listings for IBC information.

14. TRANSPORTATION INFORMATION (Continued)

ENVIRONMENTAL HAZARDS: This product and its components do not meet the criteria of environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID, and ADN);

This lithium ion battery pack is shipped according to the applicable transportation regulations listed on this SDS:

- ❖ U.S. Department of Transportation (DOT) Subchapter C of the Hazardous Materials Regulations,
- ❖ UN Recommendations on the Transport of Dangerous Goods,
- ❖ International Civil Aviation Organization (ICAO) Technical Instruction for the Safe Transport of Dangerous Goods by Air,
- ❖ International Aviation Transportation Association (IATA) Dangerous Goods Regulations,
- ❖ International Maritime Organization (IMO),
- ❖ Transport Canada Transportation of Dangerous Goods Regulations (TDG),
- ❖ European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR),
- ❖ Singapore Standard 286: Part A, and
- ❖ Australian Federal Office of Road Safety Code for the Transportation of Dangerous Goods by Road or Rail.

This lithium ion battery pack may be shipped according to the special provisions, exceptions and exemptions specified in the regulations listed above. Always refer to the latest transportation regulations prior to shipping this product as regulations may have changed.

LITHIUM ION BATTERY PACK (Li-Ion BP) CHARACTERISTICS FOR TRANSPORTATION CLASSIFICATION:

Li-Ion BP is a Small Secondary Rechargeable Battery containing 3 Lithium ion cells:

1. Energy Rating
 - a. Nominal (Li-Ion BP) Amp Hour rating is 2.300Ahr
 - b. Nominal (Li-Ion BP) energy is 24.42 Wh.
 - c. Li-Ion BP Wh rating is marked on the outside of each individual battery case
2. Li-Ion BP Cell Chemistry is not Lithium Metal
 - a. Li-Ion BP cell chemistry is Lithium ion
 - b. Li-Ion BP is rechargeable
 - c. Li-Ion BP Equivalent Lithium Content (ELC) is 1.98 gram/battery
 - d. ELC of each cell within battery is 0.66 g.
3. Weight
 - a. Li-Ion BP weight is 205 grams without packaging or booklet
4. UN Manual of Tests and Criteria, Part III, Subsection 38.3
 - a. Li-Ion BP Assembly has passed Tests 1 through 8.
 - b. Li-Ion BP Cells have passed Tests 1 through 8
 - c. Documentation confirming the batteries have been so tested is available on Brady website.
5. Li-Ion BP has Built-In Safety Features
 - a. Li-Ion BP has internal short-circuit protection circuit
 - b. Li-Ion BP has internal circuitry designed to prevent reversed polarity current flow
6. Li-Ion BP has passed 1.2 M Drop Test
 - a. Individual batteries have passed 1.2 M Drop Test
 - b. Fully packed carton as shipped from manufacturer has passed 1.2 M Drop Test
7. Li-Ion BP is not considered a marine pollutant
8. Li-Ion BP has solid cathode.

15. REGULATORY INFORMATION

INTERNATIONAL CHEMICAL INVENTORIES: This product is considered an article under the chemical inventories listed below and consequently is exempt from listing on these inventories:

- U.S. EPA Toxic Substance Control Act (TSCA)
- Canadian DSL Inventory
- Canadian Chemical Registration Regulations (NDSL/DSL)
- European Inventory of Existing Chemical Substances (EINECS/ELINCS)
- Singapore Code of Practice on Pollution Control Requirements
- Australian Inventory of Chemical Substances (AICS)
- Japanese Existing and New Chemical Substance List (ENCS)
- Korean Existing Chemicals List (ECL)
- Chinese Inventory of Existing Chemicals List (IECSC)

However, based on the rules enforced with regards to the marketing and use of chemicals to manufacture this product, each chemical component of this finished product has been listed or exempt from the listed chemical inventories.

OTHER INTERNATIONAL REGULATIONS: As an article this product has no requirements under the following U.S. and International regulations:

- U.S. SARA Reporting & Threshold Planning Quantity (TPQ) Requirements
- U.S. CERCLA Reportable Quantity (RQ)
- California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)
- Canadian WHMIS Regulations (Hazardous Products Act, 6&7, Part II (Sections 11 and 12)).
- Canadian Environmental Protection Agency (CEPA) Priorities Substances Lists
- European Union CLP EC 1272/2008: Labeling and Classification
- European Union REACH
- Australian Workplace Standard
- Australian Standard for the Uniform Scheduling of Drugs and Poisons
- Japanese Minister of International Trade and Industry (MITI).
- Japanese Poisonous and Deleterious Substances Control Law
- Singapore Code of Practice on Pollution Control Requirements
- New Zealand HNSO Regulations

15. REGULATORY INFORMATION (Continued)

EUROPEAN UNION REGULATIONS:

CHEMICAL SAFETY ASSESSMENT: No Data Available. The chemical safety assessment is required for some substances according to European Union Regulation (EC) 1907/2006, Article 14.

Substances of Very High Concern (SVHC) Status: Undetermined.

EU RoHS Directive 2011/65/EU: Internal circuitry of Li-ion BP is RoHS compliant.

16. OTHER INFORMATION

GLOBAL HARMONIZATION UNDER U.S. OSHA HAZARD COMMUNICATION STANDARD, CANADIAN WHMIS HPR-GHS 2015, EU CLP REGULATION (EC) 1272/2008 LABELING AND CLASSIFICATION, JAPANESE JIS Z 7253: 2015: LABELING AND CLASSIFICATION, KOREAN ISHA (Notice 2009-68) LABELING AND CLASSIFICATION, NEW ZEALAND HAZARDOUS SUBSTANCES and NEW ORGANISMS ACT (HNSO) CHEMICAL CLASSIFICATION (COP 8-1 09-06), OR AUSTRALIAN NOHSC STANDARDS: This product is an article and is not required to be classified under any jurisdiction.

The following classification is for the components.

Carbon: The following is a notified EU ECHA classification.

Classification: Eye Irritation Category 2A, Specific Target Organ Toxicity (Inhalation-Respiratory Irritation) Repeated Exposure Category 3

Hazard Statements: H319: Causes serious eye irritation. H335: May cause respiratory irritation.

Lithium Hexafluorophosphate: The following is a notified EU ECHA classification.

Classification: Acute Oral Toxicity Cat. 3, Skin Damage/Corrosion Category 1B, Specific Target Organ Toxicity (Bones, Teeth) Repeated Exposure Category 1

Hazard Statements: H301: Toxic if swallowed. H314: Causes severe skin burns and eye damage. H372: Causes damages to organs through prolonged or repeated exposure.

Cobalt Lithium Manganese Nickel Oxide: The following is a notified EU ECHA classification.

Classification: Acute Inhalation Toxicity Category 2, Skin Sensitization Category 1B, Respiratory Sensitization Category 1B, Specific Target Organ Toxicity Repeated Exposure Category 1, Aquatic Chronic Toxicity Category 2

Hazard Statements: H330: Fatal if inhaled. H317: May cause an allergic skin reaction. H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. H372: Causes damages to organs through prolonged or repeated exposure. H412: Harmful to aquatic life with long-lasting effects.

Nickel: The following is a notified EU ECHA classification.

Classification: Carcinogenic Category 2, Skin Sensitization Category 1, Specific Target Organ Toxicity (Inhalation-Respiratory Irritation) Single Exposure Category 3, Specific Target Organ Toxicity Repeated Exposure Category 1, Aquatic Chronic Toxicity Category 2

Hazard Statements: H351: Suspected of causing cancer. H335: May cause respiratory irritation. H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. H372: Causes damages to organs through prolonged or repeated exposure. H412: Harmful to aquatic life with long-lasting effects.

All Other Components: Not applicable.

REFERENCES AND DATA SOURCES: Contact the supplier for information.

METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Bridging principles were used to classify this product.

REVISION DETAILS: New.

PREPARED BY: CHEMICAL SAFETY ASSOCIATES, Inc. • PO Box 1961, Hilo, HI 96721 • (800) 441-3365 • (808) 969-4846

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