



# SAFETY DATA SHEET

## 1. Product and Company Identification

<b>Product identifier</b>	<b>Platinum+ Rechargeable Candles</b>
<b>Other means of identification</b>	Not available
<b>Recommended use</b>	Sealed battery
<b>Recommended restrictions</b>	None known.
<b>Manufacturer information</b>	Hollowick, Inc. 100 Fairgrounds Dr. P.O. Box 305 Manlius, NY 13104 US Phone: 315-682-2163 Phone: 800-367-3015 (Toll free) Fax: 315-682-6948 Emergency Phone: 1-800-424-9300 (CHEMTREC) Emergency Phone: 1-703-527-3887 (CHEMTREC) (Outside US)
<b>Supplier</b>	See above.

## 2. Hazards Identification

<b>Physical hazards</b>	Not classified.
<b>Health hazards</b>	Not classified.
<b>Environmental hazards</b>	Not classified.
<b>WHMIS 2015 defined hazards</b>	Not classified
<b>Label elements</b>	
<b>Hazard symbol</b>	None.
<b>Signal word</b>	None.
<b>Hazard statement</b>	The mixture does not meet the criteria for classification.
<b>Precautionary statement</b>	
<b>Prevention</b>	Observe good industrial hygiene practices.
<b>Response</b>	Wash hands after handling.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of waste and residues in accordance with local authority requirements.
<b>WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC)</b>	None known
<b>WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC)</b>	None known
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	This product is a manufactured article and is exempt.  US: As per OSHA, 1910.1200(b)(6)(v), articles are not regulated under HCS 2012. As per OSHA Definitions: 1910.1200 (c). Article means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.  CANADA: As per the Hazardous Products Act: A manufactured article means any article that is formed to a specific shape or design during manufacture, the intended use of which when in that form is dependent in whole or in part on its shape or design, and that, when being installed, if the intended use of the article requires it to be installed, and under normal conditions of use, will not release or otherwise cause an individual to be exposed to a hazardous product.

### 3. Composition/Information on Ingredients

#### Mixture

Chemical name	Common name and synonyms	CAS number	%
Nickel alloy		---	35
Nickel hydroxide		12054-48-7	30
Steel		---	25
Potassium hydroxide		1310-58-3	2

**Composition comments** \*This composition applies to the cell of the battery and the electrolyte of the unused battery.

### 4. First Aid Measures

<b>Inhalation</b>	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
<b>Skin contact</b>	Immediately flush with water. Wash with soap and water. Obtain medical attention if irritation persists.
<b>Eye contact</b>	Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.
<b>Ingestion</b>	Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious or is convulsing. Obtain medical attention.
<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with the electrolyte may cause chemical burns.
<b>Indication of immediate medical attention and special treatment needed</b>	Symptoms may be delayed.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Wear rubber gloves and chemical splash goggles. Keep out of reach of children.

### 5. Fire Fighting Measures

<b>Suitable extinguishing media</b>	If batteries are on charge, turn power off. Dry chemical. Dry sand.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide.
<b>Specific hazards arising from the chemical</b>	Battery may burst and release hazardous decomposition products when exposed to a fire situation. Some may burn but not ignite readily. Containers may explode when heated. Some may be transported hot.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters should wear full protective clothing including self-contained breathing apparatus.
<b>Fire-fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.
<b>Hazardous combustion products</b>	May include and are not limited to: Oxides of nickel. Oxides of iron. Oxides of potassium.

### 6. Accidental Release Measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep out of low areas. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	In the case of a leaking battery: Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice.
<b>Environmental precautions</b>	Do not discharge into lakes, streams, ponds or public waters.

### 7. Handling and Storage

<b>Precautions for safe handling</b>	Avoid short-circuiting the battery. Avoid mechanical damage to the battery. Do not open or disassemble. Battery may explode or cause burns if disassembled, crushed or exposed to fire or high temperatures. Do not install with incorrect polarity Use good industrial hygiene practices in handling this material.
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**Conditions for safe storage, including any incompatibilities**

Keep out of the reach of children.  
 Keep this material away from food, drink and animal feed.  
 Keep away from heat, sparks, and flame.  
 Store in a cool dry place below 30°C (86°F) Do not store below -20°C.

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## 8. Exposure Controls/Personal Protection

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**Occupational exposure limits****Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)**

Components	Type	Value
Nickel hydroxide (CAS 12054-48-7)	TWA	0.2 mg/m3
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3

**Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)**

Components	Type	Value
Nickel hydroxide (CAS 12054-48-7)	TWA	0.05 mg/m3
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3

**Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)**

Components	Type	Value	Form
Nickel hydroxide (CAS 12054-48-7)	TWA	0.2 mg/m3	Inhalable fraction.
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3	

**Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)**

Components	Type	Value	Form
Nickel hydroxide (CAS 12054-48-7)	TWA	0.2 mg/m3	Inhalable fraction.
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3	

**Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)**

Components	Type	Value
Nickel hydroxide (CAS 12054-48-7)	TWA	1 mg/m3
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3

**Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)**

Components	Type	Value
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Nickel hydroxide (CAS 12054-48-7)	PEL	1 mg/m3

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Nickel hydroxide (CAS 12054-48-7)	TWA	0.2 mg/m3	Inhalable fraction.
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3	

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value
Nickel hydroxide (CAS 12054-48-7)	TWA	0.015 mg/m3
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Safety glasses if eye contact is possible.
<b>Skin protection</b>	
<b>Hand protection</b>	Rubber gloves. Confirm with a reputable supplier first.
<b>Other</b>	Wear appropriate chemical resistant clothing. As required by employer code.
<b>Respiratory protection</b>	Not normally required if good ventilation is maintained.
<b>Thermal hazards</b>	Not applicable.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink.

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## 9. Physical and Chemical Properties

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<b>Appearance</b>	Prismatic
<b>Physical state</b>	Solid.
<b>Form</b>	The battery cell is contained in a case, designed to withstand temperatures and pressure during normal use.
<b>Color</b>	Green
<b>Odor</b>	Odorless
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Pour point</b>	Not available.
<b>Specific gravity</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	Insoluble
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	Voltage 2.4V Electric capacity 300mAh

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## 10. Stability and Reactivity

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<b>Reactivity</b>	Reaction with water or moist air will release toxic, corrosive or flammable gases.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Heat, open flames, static discharge, sparks and other ignition sources. Exposure to water or water vapor. Avoid direct sunlight. High temperatures.
<b>Incompatible materials</b>	Strong acids. Strong oxidizing agents. Conductive materials. Seawater.

**11. Toxicological Information**

**Routes of exposure** Inhalation. Ingestion. Skin contact. Eye contact.

**Information on likely routes of exposure**

**Ingestion** Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

**Inhalation** No adverse effects due to inhalation are expected.  
Inhalation of the electrolyte may be corrosive to the upper airways, cause a burning sensation in the nose, mouth and throat as well as leading to sneezing, coughing, breathing difficulties and chest pain.

**Skin contact** Direct contact with the electrolyte may cause chemical burns.

**Eye contact** Direct contact with the electrolyte may cause chemical burns. May cause blindness.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with the electrolyte may cause chemical burns.

**Information on toxicological effects**

**Acute toxicity**

Components	Species	Test Results
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Nickel hydroxide (CAS 12054-48-7)

**Acute**

*Inhalation*

LC50 Rat > 5.1 mg/L, 4 Hours

*Oral*

LD50 Rat 200 - 2000 mg/kg  
> 200 mg/kg

Potassium hydroxide (CAS 1310-58-3)

**Acute**

*Dermal*

LD50 Not available

*Inhalation*

LC50 Not available

*Oral*

LD50 Rat 388 mg/kg, ECHA  
365 mg/kg, ECHA  
333 mg/kg, ECHA  
273 mg/kg

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Exposure minutes** Not available.

**Erythema value** Not available.

**Oedema value** Not available.

**Serious eye damage/eye irritation** Direct contact with the electrolyte may cause chemical burns.

**Corneal opacity value** Not available.

**Iris lesion value** Not available.

**Conjunctival reddening value** Not available.

**Conjunctival oedema value** Not available.

**Recover days** Not available.

**Respiratory or skin sensitization** The finished product is not expected to have chronic health effects.

**Canada - Alberta OELs: Irritant**

Potassium hydroxide (CAS 1310-58-3) Irritant

**Respiratory sensitization** The finished product is not expected to have chronic health effects.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Mutagenicity** The finished product is not expected to have chronic health effects.

**Carcinogenicity** The finished product is not expected to have chronic health effects. See below.

**ACGIH Carcinogens**

Nickel hydroxide (CAS 12054-48-7) A1 Confirmed human carcinogen.

**Canada - Alberta OELs: Carcinogen category**

Nickel hydroxide (CAS 12054-48-7) Confirmed human carcinogen.

**Canada - Manitoba OELs: carcinogenicity**

NICKEL, INSOLUBLE INORGANIC COMPOUNDS (NOS), AS NI, INHALABLE FRACTION (CAS 12054-48-7) Confirmed human carcinogen.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Nickel hydroxide (CAS 12054-48-7) Volume 49, Volume 100C 1 Carcinogenic to humans.

Steel (CAS ---) Volume 49 - 2B Possibly carcinogenic to humans.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Nickel hydroxide (CAS 12054-48-7)

**US NTP Report on Carcinogens: Known carcinogen**

Nickel hydroxide (CAS 12054-48-7) Known To Be Human Carcinogen.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Reproductive toxicity** The finished product is not expected to have chronic health effects.

**Teratogenicity** The finished product is not expected to have chronic health effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not available.

**Chronic effects** The finished product is not expected to have chronic health effects.

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## 12. Ecological Information

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**Ecotoxicity** See below

**Ecotoxicological data**

**Components**

**Species**

**Test Results**

Potassium hydroxide (CAS 1310-58-3)

**Aquatic**

Fish

LC50

Western mosquitofish (*Gambusia affinis*) 80 mg/L, 96 hours

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Mobility in soil** No data available.

**Mobility in general** Not available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

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## 13. Disposal Considerations

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**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

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## 14. Transport Information

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**Transport of Dangerous Goods (TDG) Proof of Classification** Classification Method: Classified as per Part 2, Sections 2.1 – 2.8 of the Transportation of Dangerous Goods Regulations. If applicable, the technical name and the classification of the product will appear below.

**General**

Canada: These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to these dangerous goods unless they are transported by vessel.

US: This entry applies only to the vessel transportation of nickel-metal hydride batteries as cargo. Nickel-metal hydride button cells or nickel-metal hydride cells or batteries packed with or contained in battery-powered devices transported by vessel are not subject to the requirements of this special provision.

**U.S. Department of Transportation (DOT)****Basic shipping requirements:**

**UN number** UN3496  
**Proper shipping name** Batteries, nickel-metal hydride  
**Hazard class** 9  
**Special provisions** 340

**Transportation of Dangerous Goods (TDG - Canada)****Basic shipping requirements:**

**UN number** UN3496  
**Proper shipping name** BATTERIES, NICKEL-METAL HYDRIDE  
**Hazard class** 9  
**Special provisions** 97

**DOT; TDG**


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**15. Regulatory Information**


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**Canadian federal regulations** This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

**Canada CEPA Schedule I: Listed substance**

Nickel hydroxide (CAS 12054-48-7) Listed.

**Export Control List (CEPA 1999, Schedule 3)**

Not listed.

**Greenhouse Gases**

Not listed.

**Precursor Control Regulations**

Not regulated.

**WHMIS 2015 Exemptions** Not applicable

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Nickel hydroxide (CAS 12054-48-7) Listed.

Potassium hydroxide (CAS 1310-58-3) Listed.

Steel (CAS ---) Listed.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes  
 Delayed Hazard - No  
 Fire Hazard - No  
 Pressure Hazard - No  
 Reactivity Hazard - No

**SARA 302 Extremely hazardous substance** No

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Nickel hydroxide	12054-48-7	30
Steel	---	25

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Nickel hydroxide (CAS 12054-48-7)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Clean Water Act (CWA)** Hazardous substance  
**Section 112(r) (40 CFR 68.130)** Priority pollutant  
Toxic pollutant

**US state regulations****US - California Hazardous Substances (Director's): Listed substance**

Nickel hydroxide (CAS 12054-48-7) Listed.  
Potassium hydroxide (CAS 1310-58-3) Listed.

**US - Illinois Chemical Safety Act: Listed substance**

Nickel hydroxide (CAS 12054-48-7)  
Potassium hydroxide (CAS 1310-58-3)  
Steel (CAS ---)

**US - Louisiana Spill Reporting: Listed substance**

Nickel hydroxide (CAS 12054-48-7) Listed.  
Potassium hydroxide (CAS 1310-58-3) Listed.  
Steel (CAS ---) Listed.

**US - Michigan Critical Materials Register: Parameter number**

Nickel hydroxide (CAS 12054-48-7)

**US - Minnesota Haz Subs: Listed substance**

Nickel hydroxide (CAS 12054-48-7) Listed.  
Potassium hydroxide (CAS 1310-58-3) Listed.

**US - New Jersey RTK - Substances: Listed substance**

Nickel hydroxide (CAS 12054-48-7)  
Potassium hydroxide (CAS 1310-58-3)  
Steel (CAS ---)

**US - Pennsylvania RTK - Hazardous Substances: Special hazard**

Nickel hydroxide (CAS 12054-48-7)

**US - Texas Effects Screening Levels: Listed substance**

Nickel hydroxide (CAS 12054-48-7) Listed.  
Potassium hydroxide (CAS 1310-58-3) Listed.  
Steel (CAS ---) Listed.

**US. Massachusetts RTK - Substance List**

Nickel hydroxide (CAS 12054-48-7)  
Potassium hydroxide (CAS 1310-58-3)

**US. New Jersey Worker and Community Right-to-Know Act**

Nickel hydroxide (CAS 12054-48-7)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Nickel hydroxide (CAS 12054-48-7)  
Potassium hydroxide (CAS 1310-58-3)

**US. Rhode Island RTK**

Potassium hydroxide (CAS 1310-58-3)

**US. California Proposition 65**

**WARNING:** This product can expose you to Nickel Hydroxide, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Nickel hydroxide (CAS 12054-48-7) Listed: October 1, 1989

**Inventory status**

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

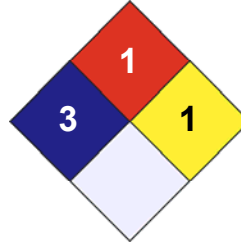
\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)



## 16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/	3
FLAMMABILITY		1
PHYSICAL HAZARD		1
PERSONAL PROTECTION		X



### Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

### Issue date

30-May-2019

### Version #

01

### Effective date

30-May-2019

### Prepared by

Dell Tech Laboratories, Ltd. Phone: (519) 858-5021

### Other information

For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.