SAFETY DATA SHEET

Issuing Date 03-Aug-2017 **Revision Date** 02-Aug-2017 **Revision Number** 1

NGHS / English

1. IDENTIFICATION

Product identifier

Product Name G3HTA044H

Other means of identification

Product Code(s) 1410256

Recommended use of the chemical and restrictions on use

Recommended Use LITHIUM ION BATTERIES

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification SImplo Technology

Address No.471,Sec.2, Pa The Rd., Hu Kou 303, Hsin Chu Hsien, Taiwan
Hsin Chu County
Taiwan
331
TW

Telephone Phone:+88635695920
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Emergency telephone number

Company Emergency Phone Number +88635695920

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Dermal	Category 4

Skin sensitization	Category 1
Carcinogenicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1

This is a battery. In case of rupture: the above hazards exist.

Appearance No information available **Physical state** Solid **Odor** No information available

GHS Label elements, including precautionary statements

Danger

Hazard statements
Harmful in contact with skin
May cause an allergic skin reaction
May cause cancer
Causes damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Contaminated work clothing must not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)
Skin
IF ON SKIN: Wash with plenty of water and soap
Call a POISON CENTER or doctor if you feel unwell
Take off contaminated clothing and wash it before reuse
If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other information
Causes mild skin irritation. Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity 97.59 % of the mixture consists of ingredient(s) of unknown toxicity
86.99 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
97.59 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

97.59 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
97.59 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
97.59 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS-No	Percent	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lithium Cobalt Oxide (CoLiO2)	12190-79-3	37.1	-	-
Aluminum	7429-90-5	14.1	-	-
Copper	7440-50-8	6.8	-	-
Nickel	7440-02-0	1.76	-	-

4. FIRST AID MEASURES

First aid measures

General advice First aid is upon rupture of sealed battery. Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.

Inhalation Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash with soap and water. May cause an allergic skin reaction. Wash off immediately with plenty of water for at least 15 minutes. If symptoms persist, call a physician.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Itching. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical Product is or contains a sensitizer. May cause sensitization by skin contact.

Hazardous Combustion Products Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

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

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits .

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	TWA: 0.02 mg/m^3	-	
Aluminum 7429-90-5	TWA: 1 mg/m^3 respirable particulate matter	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
Copper 7440-50-8	TWA: 0.2 mg/m^3 fume TWA: 1 mg/m^3 Cu dust and mist	TWA: 0.1 mg/m^3 fume TWA: 1 mg/m^3 dust and mist (vacated) TWA: 0.1 mg/m^3 Cu dust, fume, mist	IDLH: 100 mg/m^3 dust, fume and mist IDLH: 100 mg/m^3 Cu dust and mist TWA: 1 mg/m^3 dust and mist TWA: 0.1 mg/m^3 fume TWA: 1 mg/m^3 Cu dust and mist
Nickel 7440-02-0	TWA: 1.5 mg/m^3	TWA: 1 mg/m^3 (vacated) TWA: 1 mg/m^3	IDLH: 10 mg/m^3 TWA: 0.015 mg/m^3

Chemical name	Alberta	British Columbia	Ontario TWAEV	Quebec
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	TWA: 0.02 mg/m^3	TWA: 0.02 mg/m^3	TWA: 0.02 mg/m^3	TWA: 0.02 mg/m^3
Aluminum 7429-90-5	TWA: 10 mg/m^3 TWA: 5 mg/m^3	TWA: 1.0 mg/m^3	TWA: 1 mg/m^3	TWA: 10 mg/m^3 TWA: 5 mg/m^3
Copper 7440-50-8	TWA: 0.2 mg/m^3 TWA: 1 mg/m^3	TWA: 1 mg/m^3 TWA: 0.2 mg/m^3	TWA: 0.2 mg/m^3 TWA: 1 mg/m^3	TWA: 0.2 mg/m^3 TWA: 1 mg/m^3
Nickel 7440-02-0	TWA: 1.5 mg/m^3	TWA: 0.05 mg/m^3	TWA: 1 mg/m^3	TWA: 1 mg/m^3

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state	Solid
Appearance	No information available
Odor	No information available
Color	No information available
Odor Threshold	No information available

Property	**Values**	**Remarks Method**
pH	No data available	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water Solubility	Insoluble in water	
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other Information

Explosive properties	No information available
Oxidizing properties	No information available
Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk Density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

10. STABILITY AND REACTIVITY

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to avoid None known based on information supplied.

Incompatible materials None known based on information supplied.

Hazardous Decomposition Products Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Product does not present an acute toxicity hazard based on known or supplied information
In case of rupture:

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available. May cause sensitization by skin contact. (based on components). Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be absorbed through the skin in harmful amounts. Harmful in contact with skin.

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

Information on toxicological effects

Symptoms Itching. Rashes. Hives.

Numerical measures of toxicity

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 12,844.00 mg/kg
ATEmix (dermal) 1,225.00 mg/kg

Unknown acute toxicity 97.59 % of the mixture consists of ingredient(s) of unknown toxicity
86.99 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
97.59 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
97.59 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
97.59 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
97.59 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Nickel	> 9000 mg/kg (Rat)	-	-

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

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

Carcinogenicity Classification based on data available for ingredients. Contains a known or suspected

carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	A3	Group 2B	Reasonably Anticipated	X
Nickel 7440-02-0	-	Group 2B	Reasonably Anticipated	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
NTP (National Toxicology Program)
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Copper	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio)	-	48h EC50: = 0.03 mg/L
Nickel	72h EC50: = 0.18 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.174 - 0.311 mg/L (Pseudokirchneriella subcapitata)	96h LC50: > 100 mg/L (Brachydanio rerio) 96h LC50: = 1.3 mg/L (Cyprinus carpio) 96h LC50: = 10.4 mg/L (Cyprinus carpio)	-	48h EC50: > 100 mg/L 48h EC50: = 1 mg/L

Persistence and Degradability No information available.

Bioaccumulation There is no data for this product.

Mobility No information available.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

California Hazardous Waste Codes 141

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

Chemical name	California Hazardous Waste
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	Toxic
Aluminum 7429-90-5	Ignitable powder
Copper 7440-50-8	Toxic
Nickel 7440-02-0	Toxic powder Ignitable powder

14. TRANSPORT INFORMATION

Note: The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule)
Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

DOT NOT REGULATED

Proper Shipping Name	NON-REGULATED
Hazard Class	N/A
Emergency Response Guide Number	147

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated
Proper Shipping Name NON REGULATED
Hazard Class N/A

IMDG/IMO Not regulated
Hazard Class N/A
EmS-No. F-A, S-I

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS-No	Percent	SARA 313 - Threshold

			Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	37.1	0.1
Aluminum - 7429-90-5	7429-90-5	14.1	1.0
Copper - 7440-50-8	7440-50-8	6.8	1.0
Nickel - 7440-02-0	7440-02-0	1.76	0.1

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper 7440-50-8		X	X	
Nickel 7440-02-0		X	X	

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Copper 7440-50-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Nickel 7440-02-0	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
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	Rhode Island	Illinois
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	X		X	X	X
Aluminum 7429-90-5	X	X	X	X	
Copper 7440-50-8	X	X	X	X	X
Nickel 7440-02-0	X	X	X	X	X

16. OTHER INFORMATION

NFPA	**Health hazards**	1	**Flammability**	0	**Instability**	0	**Physical and Chemical Properties** -
HMIS	**Health hazards**	0	**Flammability**	0	**Physical hazards**	0	**Personal Protection** X

Prepared By

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

Issuing Date 03-Aug-2017

Revision Date 02-Aug-2017

Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

SAFETY DATA SHEET

Issuing Date 04-Aug-2017 **Revision Date** 02-Aug-2017 **Revision Number** 1

NGHS / English

1. IDENTIFICATION

Product identifier

Product Name G3HTA048H

Other means of identification

Product Code(s) 1411124

Recommended use of the chemical and restrictions on use

Recommended Use LITHIUM ION BATTERIES

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification SImplo Technology

Address No.471,Sec.2, Pa The Rd., Hu Kou 303, Hsin Chu Hsien, Taiwan
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331
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Fax:+88635695931

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Emergency telephone number

Company Emergency Phone Number +88635695920

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Dermal	Category 3

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Carcinogenicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1

This is a battery. In case of rupture: the above hazards exist.

Appearance No information available **Physical state** Solid **Odor** No information available

GHS Label elements, including precautionary statements

Danger

Hazard statements
Toxic in contact with skin
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
May cause cancer
Causes damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing must not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product
Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Skin
IF ON SKIN: Wash with plenty of water and soap
Call a POISON CENTER or doctor if you feel unwell
Take off immediately all contaminated clothing and wash it before reuse
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

May be harmful if swallowed. Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity 98.23 % of the mixture consists of ingredient(s) of unknown toxicity

87.59 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
96.54 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
98.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
98.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
98.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS-No	Percent	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lithium Cobalt Oxide (CoLiO2)	12190-79-3	42.63	-	-
Graphite	7782-42-5	23.74	-	-
Copper	7440-50-8	10.38	-	-
Aluminum	7429-90-5	5.5	-	-
Propylene carbonate	108-32-7	2.11	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	1.69	-	-
Nickel	7440-02-0	0.39	-	-

4. FIRST AID MEASURES

First aid measures

General advice First aid is upon rupture of sealed battery. Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention.

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

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Get immediate medical advice/attention.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. Get immediate medical advice/attention.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8). Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Itching. Rashes. Hives. Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical Product is or contains a sensitizer. May cause sensitization by skin contact.

Hazardous Combustion Products Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

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

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits .

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	TWA: 0.02 mg/m^3	-	
Graphite 7782-42-5	TWA: 2 mg/m^3 respirable particulate matter all forms except graphite fibers	TWA: 15 mg/m^3 total dust synthetic TWA: 5 mg/m^3 respirable fraction synthetic (vacated) TWA: 2.5 mg/m^3 respirable dust natural (vacated) TWA: 10 mg/m^3 total dust synthetic (vacated) TWA: 5 mg/m^3 respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m^3 TWA: 2.5 mg/m^3 respirable dust
Copper 7440-50-8	TWA: 0.2 mg/m^3 fume TWA: 1 mg/m^3 Cu dust and mist	TWA: 0.1 mg/m^3 fume TWA: 1 mg/m^3 dust and mist (vacated) TWA: 0.1 mg/m^3 Cu dust, fume, mist	IDLH: 100 mg/m^3 dust, fume and mist IDLH: 100 mg/m^3 Cu dust and mist TWA: 1 mg/m^3 dust and mist TWA: 0.1 mg/m^3 fume TWA: 1 mg/m^3 Cu dust and mist
Aluminum 7429-90-5	TWA: 1 mg/m^3 respirable particulate matter	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
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m^3 F	TWA: 2.5 mg/m^3 F (vacated) TWA: 2.5 mg/m^3	
Nickel 7440-02-0	TWA: 1.5 mg/m^3	TWA: 1 mg/m^3 (vacated) TWA: 1 mg/m^3	IDLH: 10 mg/m^3 TWA: 0.015 mg/m^3

Chemical name	Alberta	British Columbia	Ontario TWAEV	Quebec
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	TWA: 0.02 mg/m^3	TWA: 0.02 mg/m^3	TWA: 0.02 mg/m^3	TWA: 0.02 mg/m^3

Graphite 7782-42-5	TWA: 2 mg/m^3	TWA: 2 mg/m^3	TWA: 2 mg/m^3	TWA: 2 mg/m^3
Copper 7440-50-8	TWA: 0.2 mg/m^3 TWA: 1 mg/m^3	TWA: 1 mg/m^3 TWA: 0.2 mg/m^3	TWA: 0.2 mg/m^3 TWA: 1 mg/m^3	TWA: 0.2 mg/m^3 TWA: 1 mg/m^3
Aluminum 7429-90-5	TWA: 10 mg/m^3 TWA: 5 mg/m^3	TWA: 1.0 mg/m^3	TWA: 1 mg/m^3	TWA: 10 mg/m^3 TWA: 5 mg/m^3
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m^3	TWA: 2.5 mg/m^3	TWA: 2.5 mg/m^3	TWA: 2.5 mg/m^3
Nickel 7440-02-0	TWA: 1.5 mg/m^3	TWA: 0.05 mg/m^3	TWA: 1 mg/m^3	TWA: 1 mg/m^3

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state Solid
Appearance No information available
Odor No information available
Color No information available
Odor Threshold No information available

Property	Values	Remarks Method
pH	No data available	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit	No data available	

Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water Solubility	Insoluble in water	
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other Information

Explosive properties	No information available
Oxidizing properties	No information available
Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk Density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

10. STABILITY AND REACTIVITY

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to avoid None known based on information supplied.

Incompatible materials Strong acids. Strong bases. Strong oxidizing agents.

Hazardous Decomposition Products Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Product does not present an acute toxicity hazard based on known or supplied information
In case of rupture:

Inhalation Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). Irritating to eyes.

Skin contact Specific test data for the substance or mixture is not available. May cause sensitization by skin contact. (based on components). Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Causes skin irritation. Toxic in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects

Symptoms Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes.

Numerical measures of toxicity

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 2,936.00 mg/kg
ATEmix (dermal) 614.00 mg/kg

Unknown acute toxicity 98.23 % of the mixture consists of ingredient(s) of unknown toxicity
87.59 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
96.54 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
98.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
98.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
98.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Propylene carbonate	= 29000 mg/kg (Rat)	> 20 mL/kg (Rabbit)	-
Nickel	> 9000 mg/kg (Rat)	-	-

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

Skin corrosion/irritation Classification based on data available for ingredients. Irritating to skin.

Serious eye damage/eye irritation Classification based on data available for ingredients. Irritating to eyes.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

Carcinogenicity Classification based on data available for ingredients. Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	A3	Group 2B	Reasonably Anticipated	X
Nickel 7440-02-0	-	Group 2B	Reasonably Anticipated	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
NTP (National Toxicology Program)
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Copper	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio)	-	48h EC50: = 0.03 mg/L
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio) 96h LC50: = 5300 mg/L (Leuciscus idus)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L
Nickel	72h EC50: = 0.18 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.174 - 0.311 mg/L (Pseudokirchneriella subcapitata)	96h LC50: > 100 mg/L (Brachydanio rerio) 96h LC50: = 1.3 mg/L (Cyprinus carpio) 96h LC50: = 10.4 mg/L (Cyprinus carpio)	-	48h EC50: > 100 mg/L 48h EC50: = 1 mg/L

Persistence and Degradability No information available.

Bioaccumulation

.

Chemical name	Log Pow
Propylene carbonate	0.48

Mobility No information available.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

California Hazardous Waste Codes 141

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

Chemical name	California Hazardous Waste
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	Toxic
Copper 7440-50-8	Toxic
Aluminum 7429-90-5	Ignitable powder
Nickel 7440-02-0	Toxic powder Ignitable powder

14. TRANSPORT INFORMATION

Note: The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule)
Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

DOT NOT REGULATED
- **Proper Shipping Name** NON-REGULATED
- **Hazard Class** N/A
- **Emergency Response Guide Number** 147

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated
- **Proper Shipping Name** NON REGULATED
- **Hazard Class** N/A

IMDG/IMO Not regulated
Hazard Class N/A
EmS-No. F-A, S-I

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS-No	Percent	SARA 313 - Threshold Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	42.63	0.1
Copper - 7440-50-8	7440-50-8	10.38	1.0
Aluminum - 7429-90-5	7429-90-5	5.5	1.0
Nickel - 7440-02-0	7440-02-0	0.39	0.1

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No

Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as 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
Copper 7440-50-8		X	X	
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	Extremely Hazardous Substances RQs	RQ
Copper 7440-50-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Nickel 7440-02-0	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
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	Rhode Island	Illinois
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	X		X	X	X
Graphite 7782-42-5	X	X	X		
Copper 7440-50-8	X	X	X	X	X
Aluminum 7429-90-5	X	X	X	X	
Phosphate(1-), hexafluoro-, lithium 21324-40-3	X				
Nickel 7440-02-0	X	X	X	X	X

16. OTHER INFORMATION

NFPA **Health hazards** 1 **Flammability** 0 **Instability** 0 **Physical and Chemical Properties** -

HMIS	**Health hazards** 0	**Flammability** 0	**Physical hazards** 0	**Personal Protection** X

Prepared By

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

Issuing Date 04-Aug-2017

Revision Date 02-Aug-2017

Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

新普科技股份有限公司
SIMPLO TECHNOLOGY CO., LTD.

Safety Data Sheet

ACCORDING TO HCS-2012 APPENDIX D TO §1910.1200

Issued/Revised date : Jan 01 2020
Document No. : MI-200101001

1 IDENTIFICATION

(a) Product Identification:

Product Name : Lithium-Ion Rechargeable Battery Pack
Product Model : Coslight/CA444090G/2636 mAh[min 2547 mAh]
MSFT Model Name: : KAGAMI-C
Simplo Part Number : G3HTA065H / G3HTA065HA / G3HTA065HB
MSFT Part Number : : 0B23-023M0QS

(b) Other Means of Identification:

Product description: Voltage: 11.36V
Ampere-hour: 4.84Ah
Content of Li: 1.452g
Watt-Hour: 55Wh

(c) Recommended use of the chemical and restrictions on use

Recommended use:: Used for Notebook , PDA, cell phones, electronic products
Restriction on use: No information available.

(d) Details of the supplier of the product:

Company Name: Simplo Technology Co.,Ltd.
Addres: No 471 Sec 2 Pa Teh Rd Hu Kou 30348 Hsin Chu Hsien, Taiwan
Postcode: 30348
Telephone: +886-3-5695920
Fax: +886-3-5695931

(e) Emergency phone number: +886-3-5695920

2.Hazard(s) identification

(a) Classification of the chemical

The battery is considered as an article, and this product is not classified as hazardous.

(b) Label elements

Pictogram(s): No pictogram is used.
Signal word: No signal word is used.
Hazard statements: Not classified.
Precautionary statements: Not classified
.

(c) Description of any hazards not otherwise classified

Do not dismantle, open or shred the battery, the ingredients contained within could be harmful.

(d) Ingredient with unknown acute toxicity

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

(a) Mixtures information: ingredients contained within the battery

Chemical name	CAS No.	Concentration range
copper	7440-50-8	8.99%
Carboxymethyl cellulose	9004-32-4	0.27%
Ethene, 1,1-difluoro-, homopolymer	24937-79-9	0.58%
Graphite	7782-42-5	20.83%
cobalt lithium dioxide	12190-79-3	37.98%
Poly(ethylene)	9002-88-4	3.38
lithium hexafluorophosphate(1-)	21324-40-3	0.64
Ethyl methyl carbonate	623-53-0	5.12%
ethylene carbonate	96-49-1	5.12%
dimethyl carbonate	616-38-6	5.12%
Polypropylene	9003-07-0	0.32%
aluminium	7429-90-5	10.86%
carbon	7440-44-0	0.79%

4. FIRST-AID MEASURES

(a) Description of first aid measures

Caution! No effect under routine handling and use. If exposure to internal materials within cell due to damaged outer metal casing, the following actions are recommended.

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if you feel unwell.
Skin contact:	Immediately flush skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing and shoes before reuse. Get medical aid.
Eye contact:	Rinse cautiously with water for 15-20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Ingestion:	Rinse mouth with water. Never give anything through mouth to an unconscious person. Call a POISON Center or doctor if you feel unwell.

(b) Most important symptoms/effects, acute and delayed

No effect under routine handling and use

(c) Immediate medical attention and special treatment

Note to physicians: Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

(a) Extinguishing media

Extinguishing Media:	Use suitable extinguishing media.
Firefighting Equipment:	Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

(b) Special hazards arising from the chemical

Cell is not flammable but internal organic material will burn if the cell is incinerated. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide

.

(c) Special protective equipment and precautions for fire-fighters

If possible, remove cell(s) from fire fighting area. If heated above 130°C, cell(s) may Swell /explode /vent. Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6. ACCIDENTAL RELEASE MEASURES

(a) Personal precautions, protective equipment and emergency procedures

Restrict access to area until completion of clean up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in section 8.

(b) Methods and materials for containment and cleaning up

On Land: Place material into suitable containers and call local fire/police department. In Water: If possible, remove from water and call local fire/police department.

7. HANDLING AND STORAGE

(a) Precautions for safe handling

Do not expose the battery to excessive physical shock or vibration. Short-circuiting should be avoided. However, accidental short-circuiting for a few seconds will not seriously affect the battery. Prolonged short circuits will cause the battery to rapidly lose energy, could generate enough heat to burn skin. Sources of short circuits include jumbled batteries in bulk containers, coins, metal jewelry, metal covered tables, or metal belts used for assembly of batteries in devices. To minimize risk of short-circuiting, the protective case supplied with the battery should be used to cover the terminals when transporting or storing the battery. Do not disassemble or deform the battery. Should an individual cell within a battery become ruptured, do not allow contact with water.

(b) Conditions for safe storage, including any incompatibilities

The lithium ion battery should be between 25% and 75% of full charge when stored for a long period of time. Stored in a cool, dry, and well ventilated area. Elevated temperatures can result in loss of battery performance, leakage, or rust. Do not expose the battery to open flames.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

(a)Engineering Controls :

Keep away from heat and open flame. Store in a cool dry place
Personal Protection :

(b)Respirator :
Not required during normal operations. SCBA required in the event of a fire.

(c)Eye/Face Protection :
Not required beyond safety practices of employer.

(d)Gloves :
Not required for handling of battery.
Foot Protection : Steel toed shoes recommended for large container handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

(a) Appearance	Silver Solid
(b) Odor	Odourless
(c) Odor threshold	No data available
(d) pH	No data available
(e) Melting point	No data available
(f) Initial boiling point and boiling range	No data available
(g) Flash point	No data available
(h) Evaporation rate	No data available
(i) Flammability	No data available
(j) Upper/lower flammability or explosive limits	No data available
(k) Vapor pressure	No data available
(l) Vapor density	No data available
(m) Density	No data available
(n) Water solubility	No data available
(o) Partition coefficient: n-octanol/water	No data available
(p) Auto-ignition temperature	No data available
(q) Decomposition temperature	No data available
(r) Viscosity	No data available

10. STABILITY AND REACTIVITY

(a) Reactivity
None during normal operating or handling conditions.

(b) Chemical stability
Stable under normal condition.

(c) Possibility of hazardous reactions
No hazardous reactions known.

(d) Conditions to avoid
Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

(e) Incompatible materials
Strong oxidizing agents, strong acids, strong bases.

(f) Hazardous decomposition products

None during normal operating conditions. If cells are opened, hydrogen fluoride and carbon monoxide may be released.

11. TOXICOLOGICAL INFORMATION

(a) Information on the likely routes of exposure

Inhalation:	No effect under routine handling and use for sealed battery. If battery is broken, inhale fume/dust may cause irritation, chemical burns or lung oedema.
Ingestion:	No effect under routine handling and use for sealed battery. Harmful if swallowed the electrolyte contained inside the battery. Exposure to the electrolyte contained inside the battery may cause severe chemical burn to mouth, esophagus and gastrointestinal system.
Skin contact:	No effect under routine handling and use for sealed battery. Exposure to the electrolyte contained inside the battery may result in chemical burns. Exposure to battery particulate may cause dermatitis.
Eye contact:	No effect under routine handling and use for sealed battery. Exposure to the electrolyte contained inside the battery may result in severe irritation and chemical burns.

(b) Information on toxicological characteristics

This product does not elicit toxicological properties during routine handling and use. If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.

Acute toxicity:	No data available.
Skin corrosion/irritation:	No data available.
Serious eye damage/irritation:	No data available.
Respiratory sensitization:	No data available.
skin sensitization:	No data available.
Carcinogenicity:	No data available.
Germ Cell Mutagenicity:	No data available.
Reproductive Toxicity:	No data available.
STOT-Single Exposure:	No data available.
STOT-Repeated Exposure:	No data available.
Aspiration Hazard:	No data available.

12. ECOLOGICAL INFORMATION

(a) Ecotoxicity

No data available.

(b) Persistence and Degradability

No data available.

(c) Bioaccumulative potential

No data available.

(d) Mobility in soil

No data available.

(e) Other adverse effects

Some materials within the cell are bio-accumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment

13. DISPOSAL CONSIDERATIONS

(a) Safe handling and methods of disposal

Dispose of according to all federal, state, and local regulations.

14. TRANSPORT INFORMATION

This enclosed battery fulfills the requirements and conditions in accordance with UN Recommendations on the Transport of Dangerous Goods Model Regulations that can be treated as "Non-Dangerous Goods".

(a) UN number	Not regulated as dangerous goods
(b) UN Proper shipping name	Not regulated as dangerous goods
(c) Transport hazard class(es)	Not regulated as dangerous goods
(d) Packing group (if applicable)	Not regulated as dangerous goods
(e) Marine pollutant (Yes/No)	No
(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)	No information available.
(g) Special precautions	No information available.

15. REGULATORY INFORMATION

(a) Safety, health and environmental regulations specific for the product in question

CAS No.	USA TSCA	China IECSC	Canada DSL/NDSL
7440-50-8	Listed	Listed	DSL
9004-32-4	Listed	Listed	DSL
24937-79-9	Listed	Listed	DSL
7782-42-5	Listed	Listed	DSL
12190-79-3	Listed	Listed	DSL
9002-88-4	Listed	Listed	DSL
21324-40-3	Listed	Listed	NDSL
623-53-0	Listed	Listed	DSL
96-49-1	Listed	Listed	DSL
616-38-6	Listed	Listed	DSL
9003-07-0	Listed	Listed	DSL
7429-90-5	Listed	Listed	DSL
7440-44-0	Listed	Listed	DSL

Remark: The above-mentioned search results are based on the Non-Confidential Inventory.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

(a) Preparation and revision information

The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.
This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications The information contained in this Safety data sheet is based on the present state of knowledge and current legislation
.

(b) Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
OSHA:	The United States Occupational Safety and Health Administration.
TWA:	time-weighted average
STEL:	Short term exposure limit
DOT:	US Department Of Transportation)
IMDG:	International Maritime Dangerous Goods
IATA:	International Air Transport Association
TSCA:	Toxic Substances Control Act, The American chemical inventory.
DSL	Domestic Substances List
IECSC:	Inventory of existing chemical substances in China.

(c) Disclaimer

The information in this SDS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This SDS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this SDS should make independent judgment for the applicability of this SDS under special conditions. In these special cases, we do not assume responsibility for the damage.

---------- End of the SDS ----------

SMP 新普科技股份有限公司
SIMPLO TECHNOLOGY CO., LTD.

Safety Data Sheet

ACCORDING TO HCS-2012 APPENDIX D TO §1910.1200

Issued/Revised date : Jan 01 2020
Document No. : MI-200101002

1 IDENTIFICATION

(a) Product Identification:

Product Name : Lithium-Ion Rechargeable Battery Pack
Product Model : ATL/454090/2636 mAh[min.2547mAh]
MSFT Model Name: : KAGAMI-C
Simplo Part Number : G3HTA064H / G3HTA064HA / G3HTA064HB
MSFT Part Number : : 0B23-023Q0QS

(b) Other Means of Identification:

Product description: Voltage: 11.36V
Ampere-hour: 4.84Ah
Content of Li: 1.452g
Watt-Hour: 55Wh

(c) Recommended use of the chemical and restrictions on use

Recommended use:: Used for Notebook , PDA, cell phones, electronic products
Restriction on use: No information available.

(d) Details of the supplier of the product:

Company Name: Simplo Technology Co.,Ltd.
Addres: No 471 Sec 2 Pa Teh Rd Hu Kou 30348 Hsin Chu Hsien, Taiwan
Postcode: 30348
Telephone: +886-3-5695920
Fax: +886-3-5695931

(e) Emergency phone number: +886-3-5695920

2.Hazard(s) identification

(a) Classification of the chemical

The battery is considered as an article, and this product is not classified as hazardous.

(b) Label elements

Pictogram(s): No pictogram is used.
Signal word: No signal word is used.
Hazard statements: Not classified.
Precautionary statements: Not classified
.

(c) Description of any hazards not otherwise classified

Do not dismantle, open or shred the battery, the ingredients contained within could be harmful.

(d) Ingredient with unknown acute toxicity

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

(a) Mixtures information: ingredients contained within the battery

Chemical name	CAS No.	Concentration range
Graphite	7782-42-5	17.92%
copper	7440-50-8	14.02%
Nickel	7440-02-0	0.98%
cobalt lithium dioxide	12190-79-3	26.44%
aluminium	7429-90-5	11.44%
lithium hexafluorophosphate(1-)	21324-40-3	2.58%
Diethyl carbonate	105-58-8	5.74%
ethylene carbonate	96-49-1	5.74%
propylene carbonate	108-32-7	5.74%
NYLON 6	25038-54-4	2.06%
1-Propene, polymer with ethene	9010-79-1	2.47%
Poly(ethylene)	9002-88-4	4.87%

4. FIRST-AID MEASURES

(a) Description of first aid measures

Caution! No effect under routine handling and use. If exposure to internal materials within cell due to damaged outer metal casing, the following actions are recommended.

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if you feel unwell.
Skin contact:	Immediately flush skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing and shoes before reuse. Get medical aid.
Eye contact:	Rinse cautiously with water for 15-20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Ingestion:	Rinse mouth with water. Never give anything through mouth to an unconscious person. Call a POISON Center or doctor if you feel unwell.

(b) Most important symptoms/effects, acute and delayed

No effect under routine handling and use

(c) Immediate medical attention and special treatment

Note to physicians: Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

(a) Extinguishing media

Extinguishing Media:	Use suitable extinguishing media.
Firefighting Equipment:	Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

(b) Special hazards arising from the chemical

Cell is not flammable but internal organic material will burn if the cell is incinerated. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide

.

(c) Special protective equipment and precautions for fire-fighters

If possible, remove cell(s) from fire fighting area. If heated above 130°C, cell(s) may Swell /explode /vent. Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6. ACCIDENTAL RELEASE MEASURES

(a) Personal precautions, protective equipment and emergency procedures

Restrict access to area until completion of clean up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in section 8.

(b) Methods and materials for containment and cleaning up

On Land: Place material into suitable containers and call local fire/police department. In Water: If possible, remove from water and call local fire/police department.

7. HANDLING AND STORAGE

(a) Precautions for safe handling

Do not expose the battery to excessive physical shock or vibration. Short-circuiting should be avoided. However, accidental short-circuiting for a few seconds will not seriously affect the battery. Prolonged short circuits will cause the battery to rapidly lose energy, could generate enough heat to burn skin. Sources of short circuits include jumbled batteries in bulk containers, coins, metal jewelry, metal covered tables, or metal belts used for assembly of batteries in devices. To minimize risk of short-circuiting, the protective case supplied with the battery should be used to cover the terminals when transporting or storing the battery. Do not disassemble or deform the battery. Should an individual cell within a battery become ruptured, do not allow contact with water.

(b) Conditions for safe storage, including any incompatibilities

The lithium ion battery should be between 25% and 75% of full charge when stored for a long period of time. Stored in a cool, dry, and well ventilated area. Elevated temperatures can result in loss of battery performance, leakage, or rust. Do not expose the battery to open flames.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

(a)Engineering Controls :

Keep away from heat and open flame. Store in a cool dry place
Personal Protection :

(b)Respirator :
Not required during normal operations. SCBA required in the event of a fire.

(c)Eye/Face Protection :
Not required beyond safety practices of employer.

(d)Gloves :
Not required for handling of battery.
Foot Protection : Steel toed shoes recommended for large container handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

(a) Appearance	Silver Solid
(b) Odor	Odourless
(c) Odor threshold	No data available
(d) pH	No data available
(e) Melting point	No data available
(f) Initial boiling point and boiling range	No data available
(g) Flash point	No data available
(h) Evaporation rate	No data available
(i) Flammability	No data available
(j) Upper/lower flammability or explosive limits	No data available
(k) Vapor pressure	No data available
(l) Vapor density	No data available
(m) Density	No data available
(n) Water solubility	No data available
(o) Partition coefficient: n-octanol/water	No data available
(p) Auto-ignition temperature	No data available
(q) Decomposition temperature	No data available
(r) Viscosity	No data available

10. STABILITY AND REACTIVITY

(a) Reactivity
None during normal operating or handling conditions.

(b) Chemical stability
Stable under normal condition.

(c) Possibility of hazardous reactions
No hazardous reactions known.

(d) Conditions to avoid
Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

(e) Incompatible materials
Strong oxidizing agents, strong acids, strong bases.

(f) Hazardous decomposition products

None during normal operating conditions. If cells are opened, hydrogen fluoride and carbon monoxide may be released.

11. TOXICOLOGICAL INFORMATION

(a) Information on the likely routes of exposure

Inhalation:	No effect under routine handling and use for sealed battery. If battery is broken, inhale fume/dust may cause irritation, chemical burns or lung oedema.
Ingestion:	No effect under routine handling and use for sealed battery. Harmful if swallowed the electrolyte contained inside the battery. Exposure to the electrolyte contained inside the battery may cause severe chemical burn to mouth, esophagus and gastrointestinal system.
Skin contact:	No effect under routine handling and use for sealed battery. Exposure to the electrolyte contained inside the battery may result in chemical burns. Exposure to battery particulate may cause dermatitis.
Eye contact:	No effect under routine handling and use for sealed battery. Exposure to the electrolyte contained inside the battery may result in severe irritation and chemical burns.

(b) Information on toxicological characteristics

This product does not elicit toxicological properties during routine handling and use. If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.

Acute toxicity:	No data available.
Skin corrosion/irritation:	No data available.
Serious eye damage/irritation:	No data available.
Respiratory sensitization:	No data available.
skin sensitization:	No data available.
Carcinogenicity:	No data available.
Germ Cell Mutagenicity:	No data available.
Reproductive Toxicity:	No data available.
STOT-Single Exposure:	No data available.
STOT-Repeated Exposure:	No data available.
Aspiration Hazard:	No data available.

12. ECOLOGICAL INFORMATION

(a) Ecotoxicity

No data available.

(b) Persistence and Degradability

No data available.

(c) Bioaccumulative potential

No data available.

(d) Mobility in soil

No data available.

(e) Other adverse effects

Some materials within the cell are bio-accumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment

13. DISPOSAL CONSIDERATIONS

(a) Safe handling and methods of disposal

Dispose of according to all federal, state, and local regulations.

14. TRANSPORT INFORMATION

This enclosed battery fulfills the requirements and conditions in accordance with UN Recommendations on the Transport of Dangerous Goods Model Regulations that can be treated as "Non-Dangerous Goods".

(a) UN number	Not regulated as dangerous goods
(b) UN Proper shipping name	Not regulated as dangerous goods
(c) Transport hazard class(es)	Not regulated as dangerous goods
(d) Packing group (if applicable)	Not regulated as dangerous goods
(e) Marine pollutant (Yes/No)	No
(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)	No information available.
(g) Special precautions	No information available.

15. REGULATORY INFORMATION

(a) Safety, health and environmental regulations specific for the product in question

CAS No.	USA TSCA	China IECSC	Canada DSL/NDSL
7782-42-5	Listed	Listed	DSL
7440-50-8	Listed	Listed	DSL
7440-02-0	Listed	Listed	DSL
12190-79-3	Listed	Listed	DSL
7429-90-5	Listed	Listed	DSL
21324-40-3	Listed	Listed	DSL
105-58-8	Listed	Listed	NDSL
96-49-1	Listed	Listed	DSL
108-32-7	Listed	Listed	DSL
25038-54-4	Listed	Listed	DSL
9010-79-1	Listed	Listed	DSL
9002-88-4	Listed	Listed	DSL

Remark: The above-mentioned search results are based on the Non-Confidential Inventory.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

(a) Preparation and revision information

The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.
This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications The information contained in this Safety data sheet is based on the present state of knowledge and current legislation
.

(b) Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
OSHA:	The United States Occupational Safety and Health Administration.
TWA:	time-weighted average
STEL:	Short term exposure limit
DOT:	US Department Of Transportation)
IMDG:	International Maritime Dangerous Goods
IATA:	International Air Transport Association
TSCA:	Toxic Substances Control Act, The American chemical inventory.
DSL	Domestic Substances List
IECSC:	Inventory of existing chemical substances in China.

(c) Disclaimer

The information in this SDS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This SDS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this SDS should make independent judgment for the applicability of this SDS under special conditions. In these special cases, we do not assume responsibility for the damage.

---------- End of the SDS ----------

新普科技股份有限公司
SIMPLO TECHNOLOGY CO., LTD.

Safety Data Sheet

ACCORDING TO HCS-2012 APPENDIX D TO §1910.1200

Issued/Revised date : Jan 01 2020
Document No. : MI-200101006

1 IDENTIFICATION

(a) Product Identification:

Product Name : Lithium-Ion Rechargeable Battery Pack
Product Model : BATTERY/ATL/3446D4/3380mAh [min. 3280mAh]
BATTERY/ATL/349186/4310mAh [min. 4180mAh]
MSFT Model Name: : OPELU-C
Simplo Part Number : G3HTA066H / G3HTA066HA / G3HTA066HB
MSFT Part Number : : 0B23-02AP0QS

(b) Other Means of Identification:

Product description: Voltage: 7.5V
Ampere-hour: 7.311Ah
Content of Li: 2.1933g
Watt-Hour: 54.83Wh

(c) Recommended use of the chemical and restrictions on use

Recommended use:: Used for Notebook , PDA, cell phones, electronic products
Restriction on use: No information available.

(d) Details of the supplier of the product:

Company Name: Simplo Technology Co.,Ltd.
Addres: No 471 Sec 2 Pa Teh Rd Hu Kou 30348 Hsin Chu Hsien, Taiwan
Postcode: 30348
Telephone: +886-3-5695920
Fax: +886-3-5695931

(e) Emergency phone number: +886-3-5695920

2.Hazard(s) identification

(a) Classification of the chemical

The battery is considered as an article, and this product is not classified as hazardous.

(b) Label elements

Pictogram(s): No pictogram is used.
Signal word: No signal word is used.
Hazard statements: Not classified.
Precautionary statements: Not classified
.

(c) Description of any hazards not otherwise classified

Do not dismantle, open or shred the battery, the ingredients contained within could be harmful.

(d) Ingredient with unknown acute toxicity

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

(a) Mixtures information: ingredients contained within the battery

Chemical name	CAS No.	Concentration range
Graphite	7782-42-5	16.74%
Copper	7440-50-8	21.97%
Nickel	7440-02-0	0.98%
propylene carbonate	108-32-7	3.36%
Ethyl methyl carbonate	623-53-0	3.36%
dimethyl carbonate	616-38-6	3.36%
Diethyl carbonate	105-58-8	3.36%
lithium hexafluorophosphate(1-)	21324-40-3	2.97%
ethylene carbonate	96-49-1	3.36%
1-Propene, polymer with ethene	9010-79-1	2.47%
NYLON 6	25038-54-4	2.06%
aluminium	7429-90-5	3.56%
Poly(ethylene)	9002-88-4	4.87%
Cobalt lithium dioxide	12190-79-3	27.58%

4. FIRST-AID MEASURES

(a) Description of first aid measures

Caution! No effect under routine handling and use. If exposure to internal materials within cell due to damaged outer metal casing, the following actions are recommended.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if you feel unwell.

Skin contact: Immediately flush skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing and shoes before reuse. Get medical aid.

Eye contact: Rinse cautiously with water for 15-20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Ingestion: Rinse mouth with water. Never give anything through mouth to an unconscious person. Call a POISON Center or doctor if you feel unwell.

(b) Most important symptoms/effects, acute and delayed

No effect under routine handling and use

(c) Immediate medical attention and special treatment

Note to physicians: Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

(a) Extinguishing media

Extinguishing Media:	Use suitable extinguishing media.
Firefighting Equipment:	Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

(b) Special hazards arising from the chemical

Cell is not flammable but internal organic material will burn if the cell is incinerated. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide

.

(c) Special protective equipment and precautions for fire-fighters

If possible, remove cell(s) from fire fighting area. If heated above 130°C, cell(s) may Swell /explode /vent. Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6. ACCIDENTAL RELEASE MEASURES

(a) Personal precautions, protective equipment and emergency procedures

Restrict access to area until completion of clean up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in section 8.

(b) Methods and materials for containment and cleaning up

On Land: Place material into suitable containers and call local fire/police department. In Water: If possible, remove from water and call local fire/police department.

7. HANDLING AND STORAGE

(a) Precautions for safe handling

Do not expose the battery to excessive physical shock or vibration. Short-circuiting should be avoided. However, accidental short-circuiting for a few seconds will not seriously affect the battery. Prolonged short circuits will cause the battery to rapidly lose energy, could generate enough heat to burn skin. Sources of short circuits include jumbled batteries in bulk containers, coins, metal jewelry, metal covered tables, or metal belts used for assembly of batteries in devices. To minimize risk of short-circuiting, the protective case supplied with the battery should be used to cover the terminals when transporting or storing the battery. Do not disassemble or deform the battery. Should an individual cell within a battery become ruptured, do not allow contact with water.

(b) Conditions for safe storage, including any incompatibilities

The lithium ion battery should be between 25% and 75% of full charge when stored for a long period of time. Stored in a cool, dry, and well ventilated area. Elevated temperatures can result in loss of battery performance, leakage, or rust. Do not expose the battery to open flames.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

(a)Engineering Controls :

Keep away from heat and open flame. Store in a cool dry place
Personal Protection :

(b)Respirator :

Not required during normal operations. SCBA required in the event of a fire.

(c)Eye/Face Protection :

Not required beyond safety practices of employer.

(d)Gloves :

Not required for handling of battery.
Foot Protection : Steel toed shoes recommended for large container handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

(a) Appearance	Silver Solid
(b) Odor	Odourless
(c) Odor threshold	No data available
(d) pH	No data available
(e) Melting point	No data available
(f) Initial boiling point and boiling range	No data available
(g) Flash point	No data available
(h) Evaporation rate	No data available
(i) Flammability	No data available
(j) Upper/lower flammability or explosive limits	No data available
(k) Vapor pressure	No data available
(l) Vapor density	No data available
(m) Density	No data available
(n) Water solubility	No data available
(o) Partition coefficient: n-octanol/water	No data available
(p) Auto-ignition temperature	No data available
(q) Decomposition temperature	No data available
(r) Viscosity	No data available

10. STABILITY AND REACTIVITY

(a) Reactivity

None during normal operating or handling conditions.

(b) Chemical stability

Stable under normal condition.

(c) Possibility of hazardous reactions

No hazardous reactions known.

(d) Conditions to avoid

Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

(e) Incompatible materials

Strong oxidizing agents, strong acids, strong bases.

(f) Hazardous decomposition products

None during normal operating conditions. If cells are opened, hydrogen fluoride and carbon monoxide may be released.

11. TOXICOLOGICAL INFORMATION

(a) Information on the likely routes of exposure

Inhalation:	No effect under routine handling and use for sealed battery. If battery is broken, inhale fume/dust may cause irritation, chemical burns or lung oedema.
Ingestion:	No effect under routine handling and use for sealed battery. Harmful if swallowed the electrolyte contained inside the battery. Exposure to the electrolyte contained inside the battery may cause severe chemical burn to mouth, esophagus and gastrointestinal system.
Skin contact:	No effect under routine handling and use for sealed battery. Exposure to the electrolyte contained inside the battery may result in chemical burns. Exposure to battery particulate may cause dermatitis.
Eye contact:	No effect under routine handling and use for sealed battery. Exposure to the electrolyte contained inside the battery may result in severe irritation and chemical burns.

(b) Information on toxicological characteristics

This product does not elicit toxicological properties during routine handling and use. If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.

Acute toxicity:	No data available.
Skin corrosion/irritation:	No data available.
Serious eye damage/irritation:	No data available.
Respiratory sensitization:	No data available.
skin sensitization:	No data available.
Carcinogenicity:	No data available.
Germ Cell Mutagenicity:	No data available.
Reproductive Toxicity:	No data available.
STOT-Single Exposure:	No data available.
STOT-Repeated Exposure:	No data available.
Aspiration Hazard:	No data available.

12. ECOLOGICAL INFORMATION

(a) Ecotoxicity

No data available.

(b) Persistence and Degradability

No data available.

(c) Bioaccumulative potential

No data available.

(d) Mobility in soil

No data available.

(e) Other adverse effects

Some materials within the cell are bio-accumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment

13. DISPOSAL CONSIDERATIONS

(a) Safe handling and methods of disposal

Dispose of according to all federal, state, and local regulations.

14. TRANSPORT INFORMATION

This enclosed battery fulfills the requirements and conditions in accordance with UN Recommendations on the Transport of Dangerous Goods Model Regulations that can be treated as "Non-Dangerous Goods".

(a) UN number	Not regulated as dangerous goods
(b) UN Proper shipping name	Not regulated as dangerous goods
(c) Transport hazard class(es)	Not regulated as dangerous goods
(d) Packing group (if applicable)	Not regulated as dangerous goods
(e) Marine pollutant (Yes/No)	No
(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)	No information available.
(g) Special precautions	No information available.

15. REGULATORY INFORMATION

(a) Safety, health and environmental regulations specific for the product in question

CAS No.	USA TSCA	China IECSC	Canada DSL/NDSL
7782-42-5	Listed	Listed	DSL
7440-50-8	Listed	Listed	DSL
7440-02-0	Listed	Listed	DSL
108-32-7	Listed	Listed	DSL
623-53-0	Listed	Listed	DSL
616-38-6	Listed	Listed	DSL
105-58-8	Listed	Listed	DSL
21324-40-3	Listed	Listed	NDSL
96-49-1	Listed	Listed	DSL
9010-79-1	Listed	Listed	DSL
25038-54-4	Listed	Listed	DSL
7429-90-5	Listed	Listed	DSL
9002-88-4	Listed	Listed	DSL
12190-79-3	Listed	Listed	DSL

Remark: The above-mentioned search results are based on the Non-Confidential Inventory.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

(a) Preparation and revision information

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(b) Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
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DOT:	US Department Of Transportation)
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---------- End of the SDS ----------