SAFETY DATA SHEET

Issuing Date 24-Oct-2024 Revision Date 23-Oct-2024 Revision Number 1

NGHS / English



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1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24D4PK1 by SUNWODA

Other means of identification

Product Code(s) 1822945

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Inhalation (Vapors)	Category 1
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
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 Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Fatal if inhaled

Causes severe skin burns and eye damage

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

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Wash face, hands and any exposed skin thoroughly after handling

Contaminated work clothing must not be allowed out of the workplace

Do not eat, drink or smoke when using this product

Precautionary Statements - Response

Specific treatment is urgent (see supplemental first aid instructions on this label)

Immediately call a POISON CENTER or doctor

Lyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed



Page 2/14

Revision Date 23-Oct-2024

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

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

Unknown acute toxicity

52 % of the mixture consists of ingredient(s) of unknown toxicity

- 49 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 52 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 52 % 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	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Cobalt lithium	182442-95-1	50	-	-
manganese nickel oxide				
Graphite	7782-42-5	30	-	-
Ci 77400	7440-50-8	15	-	-
Propylene carbonate	108-32-7	10	-	-
Ethylene carbonate	96-49-1	10	-	-
Ci 77000	7429-90-5	10	-	-
Phosphate(1-),	21324-40-3	5	-	-
hexafluoro-, lithium				
Nickel	7440-02-0	2	-	-
Ci 77266	1333-86-4	2	-	-
Sodium carboxymethyl	9004-32-4	1	-	-
cellulose				
1,3-Propane sultone	1120-71-4	0.5	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

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

Inhalation

If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.



Page 3/14

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present

and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. Get immediate medical advice/attention. May cause an allergic skin

reaction.

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. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more

information. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Burning sensation. Itching. Rashes.

Hives.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause

sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. 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



Revision Date 23-Oct-2024

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Avoid generation of

dust. Do not breathe dust. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Attention!

Corrosive material.

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. Do not breathe dust. Avoid generation of dust. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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. Protect from moisture. Store away from other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Cobalt lithium manganese	TWA: 0.02 mg/m ³ Co inhalable	(vacated) Ceiling: 5 mg/m ³	IDLH: 500 mg/m ³ Mn
nickel oxide	particulate matter	Ceiling: 5 mg/m ³ Mn	IDLH: 10 mg/m ³ Ni
182442-95-1	TWA: 0.02 mg/m ³ Mn respirable		TWA: 1 mg/m³ Mn
	particulate matter		TWA: 0.015 mg/m³ except
	TWA: 0.1 mg/m ³ Mn inhalable		Nickel carbonyl Ni
	particulate matter		STEL: 3 mg/m³ Mn
Graphite	TWA: 2 mg/m ³ respirable	TWA: 15 mg/m³ total dust	IDLH: 1250 mg/m ³
7782-42-5	particulate matter all forms	synthetic	TWA: 2.5 mg/m³ respirable
	except graphite fibers	TWA: 5 mg/m³ respirable	dust
		fraction synthetic	
		TWA: 15 mppcf respirable dust	
		natural	
		(vacated) TWA: 2.5 mg/m ³	
		respirable dust natural	
		(vacated) TWA: 10 mg/m³ total	
		dust synthetic	



(vacated) TWA: 5 mg/m³ respirable fraction synthetic TWA: 15 mppcf natural Ci 77400 TWA: 0.2 mg/m3 fume TWA: 0.1 mg/m³ fume IDLH: 100 mg/m³ dust, fume TWA: 1 mg/m³ dust and mist 7440-50-8 and mist (vacated) TWA: 0.1 mg/m3 Cu TWA: 1 mg/m³ dust and mist dust, fume, mist TWA: 0.1 mg/m³ fume TWA: 1 mg/m³ respirable TWA: 15 mg/m³ total dust TWA: 10 mg/m3 total dust Ci 77000 7429-90-5 fraction TWA: 5 mg/m³ respirable TWA: 5 mg/m³ respirable dust fraction (vacated) TWA: 15 mg/m3 total dust (vacated) TWA: 5 mg/m³ respirable fraction Phosphate(1-), hexafluoro-, TWA: 2.5 mg/m³ F TWA: 2.5 mg/m³ F IDLH: 250 mg/m³ F (vacated) TWA: 2.5 mg/m³ lithium 21324-40-3 TWA: 1.5 mg/m³ TWA: 1 mg/m³ IDLH: 10 mg/m³ Nickel 7440-02-0 (vacated) TWA: 1 mg/m³ TWA: 0.015 mg/m³ Ci 77266 TWA: 3 mg/m³ inhalable TWA: 3.5 mg/m³ IDLH: 1750 ma/m³ 1333-86-4 particulate matter (vacated) TWA: 3.5 mg/m³ TWA: 3.5 mg/m³ TWA: 0.1 mg/m3 Carbon black in presence of Polycyclic aromatic hydrocarbons PAH British Columbia Chemical name Ontario TWAEV Alberta Quebec Cobalt lithium TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ TWA: 0.2 mg/m³ manganese nickel oxide TWA: 0.2 mg/m³ TWA: 0.2 mg/m³ TWA: 0.1 mg/m³ TWA: 0.05 mg/m³ 182442-95-1 TWA: 0.02 mg/m³ Graphite TWA: 2 mg/m³ TWA: 2 mg/m³ TWA: 2 mg/m³ TWA: 2 mg/m³ 7782-42-5 TWA: 0.2 mg/m³ TWA: 0.2 mg/m³ TWA: 0.2 mg/m³ Ci 77400 TWA: 1 mg/m³ TWA: 1 mg/m³ TWA: 1 mg/m³ 7440-50-8 TWA: 0.2 mg/m³ TWA: 1 mg/m³ Ci 77000 TWA: 10 mg/m³ TWA: 1.0 mg/m³ TWA: 1 mg/m³ TWA: 10 mg/m³ 7429-90-5 Phosphate(1-), TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ hexafluoro-, lithium 21324-40-3 TWA: 1.5 mg/m³ TWA: 0.05 mg/m³ TWA: 1 mg/m³ TWA: 1.5 mg/m³ Nickel 7440-02-0 Ci 77266 TWA: 3.5 mg/m³ TWA: 3 mg/m³ TWA: 3 mg/m³ TWA: 3 mg/m³ 1333-86-4 1,3-Propane sultone TWA: TWA: TWA: 1120-71-4

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

(11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls

Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield.



Hand protection Wear suitable gloves. Impervious gloves.

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

Respiratory protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. Do not breathe dust. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated

None known

clothing and gloves, including the inside, before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical stateSolidAppearanceBlackOdorOdorless

ColorNo information availableOdor ThresholdNo information available

Property Values Remarks Method

No data available None known рH 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 No data available Flammability (solid, gas) None known

Flammability Limit in Air

Upper flammability limitNo data availableLower flammability limitNo data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone knownWater SolubilityInsoluble in water

Solubility(ies) No data available

Partition coefficient: n-octanol/water1

Autoignition temperature

No data available

None known

Other Information

Explosive properties No information available No information available Oxidizing properties **Softening Point** No information available No information available **Molecular Weight VOC Content (%)** No information available No information available **Liquid Density 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 Excessive heat. Exposure to air or moisture over prolonged periods.

Incompatible materials Acids. Bases. Oxidizing agent.

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. Fatal if inhaled. (based on

components). Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic

edema of the lungs. Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Corrosive to the eyes and may cause severe damage including blindness.

Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be

harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Redness. Burning. May cause

blindness. 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) 4,495.40 mg/kg



Page 8/14

ATEmix (dermal) 2,880.00 mg/kg ATEmix (inhalation-vapor) 0.481 mg/L

Unknown acute toxicity 52 % of the mixture consists of ingredient(s) of unknown toxicity

49 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

52 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Graphite	-	-	> 2000 mg/m³ (Rat) 4 h
Ci 77400	-	-	> 5.11 mg/L (Rat) 4 h
Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³ (Rat) 8 h
Ci 77000	-	-	> 0.888 mg/L (Rat) 4 h
Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h
Ci 77266	> 10000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 4.6 mg/m ³ (Rat) 4 h
Sodium carboxymethyl cellulose	= 27000 mg/kg (Rat)	-	> 5800 mg/m³ (Rat) 4 h
1,3-Propane sultone	= 157 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. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

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

ingredients. May cause cancer.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Cobalt lithium manganese nickel oxide 182442-95-1	A3	Group 2B Group 1	Reasonably Anticipated Known	X
Nickel 7440-02-0	-	Group 2B	Reasonably Anticipated	Х
Ci 77266 1333-86-4	A3	Group 2B	-	Х
1,3-Propane sultone 1120-71-4	A3	Group 2A	Reasonably Anticipated	Х

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans



NTP (National Toxicology Program)

Known - Known Carcinogen

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	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Graphite	No data available	96h LC50: > 100 mg/L (Danio rerio)	No data available	No data available
Ci 77400	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 0.112 mg/L (Poecilia reticulata)	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	No data available	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	No data available	No data available
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)	No data available	48h EC50: > 100 mg/L (Daphnia magna) 48h EC50: = 1 mg/L (Daphnia magna)

Persistence and Degradability

No information available.

Bioaccumulation



Component Information

Chemical name	Partition coefficient
Propylene carbonate	0.48
Ethylene carbonate	0.11

Mobility

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

products

environmentar legislation.

Contaminated packaging

Do not reuse empty containers.

California 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
Cobalt lithium manganese nickel oxide 182442-95-1	Toxic
Ci 77000 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"

Proper Shipping Name

NOT REGULATED NON-REGULATED

Hazard Class

N/A 147

Emergency Response Guide Number

TDG Not applicable



DOT

MEX Not applicable

ICAO Not applicable

IATA

ADN

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class 9 ERG Code 12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A EmS-No. F-A, S-I

Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to

IMDG/IMO

Not applicable

RIDNot applicableADRNot applicable

15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA

Contact supplier for inventory compliance status.

DSL/NDSL

EINECS/ELINCS

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	Weight-%	SARA 313 - Threshold Values %
Cobalt lithium manganese nickel oxide - 182442-95-1	182442-95-1	50	1.0 0.1
Ci 77400 - 7440-50-8	7440-50-8	15	1.0
Ci 77000 - 7429-90-5	7429-90-5	10	1.0
Nickel - 7440-02-0	7440-02-0	2	0.1
1,3-Propane sultone - 1120-71-4	1120-71-4	0.5	0.1

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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
Cobalt lithium		X		
manganese nickel oxide				
182442-95-1				
Ci 77400		X	Χ	
7440-50-8				
Nickel		X	X	
7440-02-0				

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
Ci 77400	5000 lb		RQ 5000 lb final RQ
7440-50-8			RQ 2270 kg final RQ
Nickel	100 lb		RQ 100 lb final RQ
7440-02-0			RQ 45.4 kg final RQ
1,3-Propane sultone	10 lb		RQ 10 lb final RQ
1120-71-4			RQ 4.54 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Cobalt lithium manganese nickel oxide - 182442-95-1	carcinogen, 5/7/2004
Nickel - 7440-02-0	carcinogen, 10/1/1989 (metallic)
Ci 77266 - 1333-86-4	carcinogen, 2/21/2003 (airborne, unbound particles of respirable
	size)
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.



Revision Date 23-Oct-2024

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Cobalt lithium manganese nickel oxide 182442-95-1	X		Х	X	Х
Graphite 7782-42-5	Х	X	Х		
Ci 77400 7440-50-8	Χ	X	X	X	Х
Ethylene carbonate 96-49-1		X	Х		
Ci 77000 7429-90-5	X	X	Х	Х	
Phosphate(1-), hexafluoro-, lithium 21324-40-3	Х				
Nickel 7440-02-0	Х	Х	Х	Х	Х
Ci 77266 1333-86-4	Х	Х	Х		Х
1,3-Propane sultone 1120-71-4	Х	X	Х	Х	Х

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 24-Oct-2024

Revision Date 23-Oct-2024

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 01-Oct-2024

Revision Date 27-Sep-2024

Revision Number 1

NGHS / English



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1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24D3PK2 by SUNWODA

Other means of identification

Product Code(s) 1820748

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Inhalation (Vapors)	Category 1
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
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 Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Fatal if inhaled Causes severe skin b

Causes severe skin burns and eye damage

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

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Wash face, hands and any exposed skin thoroughly after handling

Contaminated work clothing must not be allowed out of the workplace

Do not eat, drink or smoke when using this product

Precautionary Statements - Response

Specific treatment is urgent (see supplemental first aid instructions on this label)

Immediately call a POISON CENTER or doctor

Lyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed



Page 2/14

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

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

Unknown acute toxicity

52 % of the mixture consists of ingredient(s) of unknown toxicity

- 49 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 52 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 52 % 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	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Cobalt lithium	182442-95-1	50	-	-
manganese nickel oxide				
Graphite	7782-42-5	30	-	-
Ci 77400	7440-50-8	15	-	-
Propylene carbonate	108-32-7	10	-	-
Ethylene carbonate	96-49-1	10	-	-
Ci 77000	7429-90-5	10	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	5	-	-
Nickel	7440-02-0	2	-	-
Ci 77266	1333-86-4	2	-	-
Sodium carboxymethyl cellulose	9004-32-4	1	-	-
1,3-Propane sultone	1120-71-4	0.5	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

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

Inhalation

If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.



Page 3/14

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present

and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contactWash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. Get immediate medical advice/attention. May cause an allergic skin

reaction.

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. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more

information. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Burning sensation. Itching. Rashes.

Hives.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause

sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. 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. Avoid generation of

dust. Do not breathe dust. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Attention!

Corrosive material.

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. Do not breathe dust. Avoid generation of dust. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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. Protect from moisture. Store away from other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Cobalt lithium manganese	TWA: 0.02 mg/m ³ Co inhalable	(vacated) Ceiling: 5 mg/m ³	IDLH: 500 mg/m ³ Mn
nickel oxide	particulate matter	Ceiling: 5 mg/m ³ Mn	IDLH: 10 mg/m ³ Ni
182442-95-1	TWA: 0.02 mg/m³ Mn respirable		TWA: 1 mg/m ³ Mn
	particulate matter		TWA: 0.015 mg/m³ except
	TWA: 0.1 mg/m ³ Mn inhalable		Nickel carbonyl Ni
	particulate matter		STEL: 3 mg/m³ Mn
Graphite	TWA: 2 mg/m ³ respirable	TWA: 15 mg/m³ total dust	IDLH: 1250 mg/m ³
7782-42-5	particulate matter all forms	synthetic	TWA: 2.5 mg/m³ respirable
	except graphite fibers	TWA: 5 mg/m³ respirable	dust
		fraction synthetic	
		TWA: 15 mppcf respirable dust	
		natural	
		(vacated) TWA: 2.5 mg/m ³	
		respirable dust natural	
		(vacated) TWA: 10 mg/m³ total	
		dust synthetic	



(vacated) TWA: 5 mg/m³ respirable fraction synthetic TWA: 15 mppcf natural Ci 77400 TWA: 0.2 mg/m3 fume TWA: 0.1 mg/m³ fume IDLH: 100 mg/m³ dust, fume TWA: 1 mg/m³ dust and mist 7440-50-8 and mist (vacated) TWA: 0.1 mg/m3 Cu TWA: 1 mg/m³ dust and mist dust, fume, mist TWA: 0.1 mg/m³ fume TWA: 1 mg/m³ respirable TWA: 15 mg/m³ total dust TWA: 10 mg/m3 total dust Ci 77000 7429-90-5 fraction TWA: 5 mg/m³ respirable TWA: 5 mg/m³ respirable dust fraction (vacated) TWA: 15 mg/m3 total dust (vacated) TWA: 5 mg/m³ respirable fraction Phosphate(1-), hexafluoro-, TWA: 2.5 mg/m³ F TWA: 2.5 mg/m³ F IDLH: 250 mg/m³ F (vacated) TWA: 2.5 mg/m³ lithium 21324-40-3 TWA: 1.5 mg/m³ TWA: 1 mg/m³ IDLH: 10 mg/m³ Nickel 7440-02-0 (vacated) TWA: 1 mg/m³ TWA: 0.015 mg/m³ Ci 77266 TWA: 3 mg/m³ inhalable TWA: 3.5 mg/m³ IDLH: 1750 ma/m³ 1333-86-4 particulate matter (vacated) TWA: 3.5 mg/m³ TWA: 3.5 mg/m³ TWA: 0.1 mg/m3 Carbon black in presence of Polycyclic aromatic hydrocarbons PAH British Columbia Chemical name Ontario TWAEV Alberta Quebec Cobalt lithium TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ TWA: 0.2 mg/m³ manganese nickel oxide TWA: 0.2 mg/m³ TWA: 0.2 mg/m³ TWA: 0.1 mg/m³ TWA: 0.05 mg/m³ 182442-95-1 TWA: 0.02 mg/m³ Graphite TWA: 2 mg/m³ TWA: 2 mg/m³ TWA: 2 mg/m³ TWA: 2 mg/m³ 7782-42-5 TWA: 0.2 mg/m³ TWA: 0.2 mg/m³ TWA: 0.2 mg/m³ Ci 77400 TWA: 1 mg/m³ TWA: 1 mg/m³ TWA: 1 mg/m³ 7440-50-8 TWA: 0.2 mg/m³ TWA: 1 mg/m³ Ci 77000 TWA: 10 mg/m³ TWA: 1.0 mg/m³ TWA: 1 mg/m³ TWA: 10 mg/m³ 7429-90-5 Phosphate(1-), TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ hexafluoro-, lithium 21324-40-3 TWA: 1.5 mg/m³ TWA: 0.05 mg/m³ TWA: 1 mg/m³ TWA: 1.5 mg/m³ Nickel 7440-02-0 Ci 77266 TWA: 3.5 mg/m³ TWA: 3 mg/m³ TWA: 3 mg/m³ TWA: 3 mg/m³ 1333-86-4

Other Exposure Guidelines

1,3-Propane sultone

1120-71-4

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

TWA:

(11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls

Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield.

TWA:



TWA:

Hand protection Wear suitable gloves. Impervious gloves.

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

Respiratory protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. Do not breathe dust. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated

None known

clothing and gloves, including the inside, before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid
Appearance Black
Odor Odorless

ColorNo information availableOdor ThresholdNo information available

Property Values Remarks Method

No data available None known рH 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 No data available Flammability (solid, gas) None known

Flammability Limit in Air

Upper flammability limitNo data availableLower flammability limitNo data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone known

Water Solubility Insoluble in water Solubility(ies) No data available

Partition coefficient: n-octanol/water1

Autoignition temperature

No data available

None known

Other Information

Explosive properties No information available No information available Oxidizing properties **Softening Point** No information available No information available **Molecular Weight VOC Content (%)** No information available No information available **Liquid Density 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 Excessive heat. Exposure to air or moisture over prolonged periods.

Incompatible materials Acids. Bases. Oxidizing agent.

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. Fatal if inhaled. (based on

components). Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic

edema of the lungs. Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Corrosive to the eyes and may cause severe damage including blindness.

Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be

harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Redness. Burning. May cause

blindness. 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) 4,495.40 mg/kg



Page 8/14

ATEmix (dermal) 2,880.00 mg/kg ATEmix (inhalation-vapor) 0.481 mg/L

Unknown acute toxicity 52 % of the mixture consists of ingredient(s) of unknown toxicity

49 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

52 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Graphite	-	-	> 2000 mg/m³ (Rat) 4 h
Ci 77400	-	-	> 5.11 mg/L (Rat) 4 h
Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³ (Rat) 8 h
Ci 77000	-	-	> 0.888 mg/L (Rat) 4 h
Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h
Ci 77266	> 10000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 4.6 mg/m ³ (Rat) 4 h
Sodium carboxymethyl cellulose	= 27000 mg/kg (Rat)	-	> 5800 mg/m³ (Rat) 4 h
1,3-Propane sultone	= 157 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. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

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

ingredients. May cause cancer.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Cobalt lithium manganese nickel oxide 182442-95-1	A3	Group 2B Group 1	Reasonably Anticipated Known	X
Nickel 7440-02-0	-	Group 2B	Reasonably Anticipated	Х
Ci 77266 1333-86-4	A3	Group 2B	-	Х
1,3-Propane sultone 1120-71-4	A3	Group 2A	Reasonably Anticipated	Х

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans



Page 9/14

NTP (National Toxicology Program)

Known - Known Carcinogen

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 exposureCauses 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	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Graphite	No data available	96h LC50: > 100 mg/L (Danio rerio)	No data available	No data available
Ci 77400	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 0.112 mg/L (Poecilia reticulata)	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	No data available	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	No data available	No data available
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)	No data available	48h EC50: > 100 mg/L (Daphnia magna) 48h EC50: = 1 mg/L (Daphnia magna)

Persistence and Degradability

No information available.

Bioaccumulation



Page 10/14

Component Information

Chemical name	Partition coefficient
Propylene carbonate	0.48
Ethylene carbonate	0.11

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 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
Cobalt lithium manganese nickel oxide	Toxic
182442-95-1	
Ci 77000	Ignitable powder
7429-90-5	
Nickel	Toxic powder
7440-02-0	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 147

Number

TDG Not applicable



MEX Not applicable

ICAO Not applicable

IATA

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class 9 ERG Code 12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A EmS-No. F-A, S-I

Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to

IMDG/IMO

RID Not applicable

ADR Not applicable

ADN Not applicable

15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA

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	Weight-%	SARA 313 - Threshold Values %
Cobalt lithium manganese nickel oxide - 182442-95-1	182442-95-1	50	1.0 0.1
Ci 77400 - 7440-50-8	7440-50-8	15	1.0
Ci 77000 - 7429-90-5	7429-90-5	10	1.0
Nickel - 7440-02-0	7440-02-0	2	0.1
1,3-Propane sultone - 1120-71-4	1120-71-4	0.5	0.1

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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
Cobalt lithium		X		
manganese nickel oxide				
182442-95-1				
Ci 77400		X	Χ	
7440-50-8				
Nickel		X	X	
7440-02-0				

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
Ci 77400	5000 lb		RQ 5000 lb final RQ
7440-50-8			RQ 2270 kg final RQ
Nickel	100 lb		RQ 100 lb final RQ
7440-02-0			RQ 45.4 kg final RQ
1,3-Propane sultone	10 lb		RQ 10 lb final RQ
1120-71-4			RQ 4.54 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65	
Cobalt lithium manganese nickel oxide - 182442-95-1	carcinogen, 5/7/2004	
Nickel - 7440-02-0	carcinogen, 10/1/1989 (metallic)	
Ci 77266 - 1333-86-4	carcinogen, 2/21/2003 (airborne, unbound particles of respirable	
	size)	
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988	

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
Cobalt lithium manganese	Χ		X	X	X
nickel oxide					
182442-95-1					
Graphite	Χ	X	X		
7782-42-5					
Ci 77400	Χ	X	X	X	X
7440-50-8					
Ethylene carbonate		X	X		
96-49-1					
Ci 77000	Χ	X	X	X	
7429-90-5					
Phosphate(1-),	Χ				
hexafluoro-, lithium					
21324-40-3					
Nickel	Χ	X	X	X	X
7440-02-0					
Ci 77266	Χ	X	X		X
1333-86-4					
1,3-Propane sultone	Χ	X	X	X	X
1120-71-4					

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 ByProduct Stewardship
23 British American Blvd.

Latham, NY 12110 1-800-572-6501

Issuing Date 01-Oct-2024

Revision Date 27-Sep-2024

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 25-Oct-2024

Revision Date 27-Sep-2024

Revision Number 1

NGHS / English

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1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24D3PK3 by SUNWODA

Other means of identification

Product Code(s) 1820762

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Inhalation (Vapors)	Category 1
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
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

Fatal if inhaled

Causes severe skin burns and eye damage

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

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Wash face, hands and any exposed skin thoroughly after handling

Contaminated work clothing must not be allowed out of the workplace

Do not eat, drink or smoke when using this product

Precautionary Statements - Response

Specific treatment is urgent (see supplemental first aid instructions on this label)

Immediately call a POISON CENTER or doctor

Lyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed



Page 2/14

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

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

Unknown acute toxicity

52 % of the mixture consists of ingredient(s) of unknown toxicity

49 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

52 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

52 % 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	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Cobalt lithium	182442-95-1	50	-	-
manganese nickel oxide				
Graphite	7782-42-5	30	-	-
Ci 77400	7440-50-8	15	-	-
Propylene carbonate	108-32-7	10	-	-
Ethylene carbonate	96-49-1	10	-	-
Ci 77000	7429-90-5	10	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	5	-	-
Nickel	7440-02-0	2	-	-
Ci 77266	1333-86-4	2	-	-
Sodium carboxymethyl cellulose	9004-32-4	1	-	-
1,3-Propane sultone	1120-71-4	0.5	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

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

Inhalation

If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.



Page 3/14

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present

and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. Get immediate medical advice/attention. May cause an allergic skin

reaction.

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. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more

information. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Burning sensation. Itching. Rashes.

Hives.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause

sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. 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 Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate

ventilation. Avoid generation of dust. Do not breathe dust. 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. Do not breathe dust. Avoid generation of dust. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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. Protect from moisture. Store away from other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Cobalt lithium manganese	TWA: 0.02 mg/m ³ Co inhalable	(vacated) Ceiling: 5 mg/m ³	IDLH: 500 mg/m ³ Mn
nickel oxide	particulate matter	Ceiling: 5 mg/m ³ Mn	IDLH: 10 mg/m ³ Ni
182442-95-1	TWA: 0.02 mg/m³ Mn respirable		TWA: 1 mg/m ³ Mn
	particulate matter		TWA: 0.015 mg/m³ except
	TWA: 0.1 mg/m ³ Mn inhalable		Nickel carbonyl Ni
	particulate matter		STEL: 3 mg/m³ Mn
Graphite	TWA: 2 mg/m ³ respirable	TWA: 15 mg/m³ total dust	IDLH: 1250 mg/m ³
7782-42-5	particulate matter all forms	synthetic	TWA: 2.5 mg/m ³ respirable
	except graphite fibers	TWA: 5 mg/m³ respirable	dust
		fraction synthetic	
		TWA: 15 mppcf respirable dust	
		natural	
		(vacated) TWA: 2.5 mg/m ³	
		respirable dust natural	
		(vacated) TWA: 10 mg/m³ total	
		dust synthetic	



(vacated) TWA: 5 mg/m³ respirable fraction synthetic TWA: 15 mppcf natural Ci 77400 TWA: 0.2 mg/m3 fume TWA: 0.1 mg/m³ fume IDLH: 100 mg/m³ dust, fume TWA: 1 mg/m³ dust and mist 7440-50-8 and mist (vacated) TWA: 0.1 mg/m3 Cu TWA: 1 mg/m³ dust and mist dust, fume, mist TWA: 0.1 mg/m³ fume TWA: 1 mg/m³ respirable TWA: 15 mg/m³ total dust TWA: 10 mg/m3 total dust Ci 77000 7429-90-5 fraction TWA: 5 mg/m³ respirable TWA: 5 mg/m³ respirable dust fraction (vacated) TWA: 15 mg/m3 total dust (vacated) TWA: 5 mg/m³ respirable fraction Phosphate(1-), hexafluoro-, TWA: 2.5 mg/m³ F TWA: 2.5 mg/m³ F IDLH: 250 mg/m³ F (vacated) TWA: 2.5 mg/m³ lithium 21324-40-3 TWA: 1.5 mg/m³ TWA: 1 mg/m³ IDLH: 10 mg/m³ Nickel 7440-02-0 (vacated) TWA: 1 mg/m³ TWA: 0.015 mg/m³ Ci 77266 TWA: 3 mg/m³ inhalable TWA: 3.5 mg/m³ IDLH: 1750 ma/m³ 1333-86-4 particulate matter (vacated) TWA: 3.5 mg/m³ TWA: 3.5 mg/m³ TWA: 0.1 mg/m3 Carbon black in presence of Polycyclic aromatic hydrocarbons PAH British Columbia Chemical name Ontario TWAEV Alberta Quebec Cobalt lithium TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ TWA: 0.2 mg/m³ manganese nickel oxide TWA: 0.2 mg/m³ TWA: 0.2 mg/m³ TWA: 0.1 mg/m³ TWA: 0.05 mg/m³ 182442-95-1 TWA: 0.02 mg/m³ Graphite TWA: 2 mg/m³ TWA: 2 mg/m³ TWA: 2 mg/m³ TWA: 2 mg/m³ 7782-42-5 TWA: 0.2 mg/m³ TWA: 0.2 mg/m³ TWA: 0.2 mg/m³ Ci 77400 TWA: 1 mg/m³ TWA: 1 mg/m³ TWA: 1 mg/m³ 7440-50-8 TWA: 0.2 mg/m³ TWA: 1 mg/m³ Ci 77000 TWA: 10 mg/m³ TWA: 1.0 mg/m³ TWA: 1 mg/m³ TWA: 10 mg/m³ 7429-90-5 Phosphate(1-), TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ hexafluoro-, lithium 21324-40-3 TWA: 1.5 mg/m³ TWA: 0.05 mg/m³ TWA: 1 mg/m³ TWA: 1.5 mg/m³ Nickel 7440-02-0 Ci 77266 TWA: 3.5 mg/m³ TWA: 3 mg/m³ TWA: 3 mg/m³ TWA: 3 mg/m³ 1333-86-4 TWA: 1,3-Propane sultone TWA: TWA: 1120-71-4

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

(11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls

Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield.



Hand protection Wear suitable gloves. Impervious gloves.

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

Respiratory protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. Do not breathe dust. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated

None known

clothing and gloves, including the inside, before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid

AppearanceNo information availableOdorNo information availableColorNo information availableOdor ThresholdNo information available

<u>Property</u> <u>Values</u> <u>Remarks Method</u>

No data available None known рH 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 No data available Flammability (solid, gas) None known

Flammability Limit in Air

Upper flammability limitNo data availableLower flammability limitNo data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone knownWater SolubilityInsoluble in water

Solubility(ies) No data available

Partition coefficient: n-octanol/water1

Autoignition temperature

No data available

None known

Other Information

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

10. STABILITY AND REACTIVITY



Page 7/14

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 Excessive heat. Exposure to air or moisture over prolonged periods.

Incompatible materials Acids. Bases. Oxidizing agent.

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. Fatal if inhaled. (based on

components). Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic

edema of the lungs. Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Corrosive to the eyes and may cause severe damage including blindness.

Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be

harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Redness. Burning. May cause

blindness. 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) 4,495.40 mg/kg



Page 8/14

ATEmix (dermal) 2,880.00 mg/kg
ATEmix (inhalation-vapor) 0.481 mg/L

Unknown acute toxicity 52 % of the mixture consists of ingredient(s) of unknown toxicity

49 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

52 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

52 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Graphite	-	-	> 2000 mg/m³ (Rat) 4 h
Ci 77400	-	-	> 5.11 mg/L (Rat) 4 h
Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³ (Rat) 8 h
Ci 77000	-	•	> 0.888 mg/L (Rat) 4 h
Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h
Ci 77266	> 10000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 4.6 mg/m³ (Rat) 4 h
Sodium carboxymethyl cellulose	= 27000 mg/kg (Rat)	-	> 5800 mg/m³ (Rat) 4 h
1,3-Propane sultone	= 157 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. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

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

ingredients. May cause cancer.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Cobalt lithium manganese nickel oxide 182442-95-1	A3	Group 2B Group 1	Reasonably Anticipated Known	X
Nickel 7440-02-0	-	Group 2B	Reasonably Anticipated	Х
Ci 77266 1333-86-4	A3	Group 2B	-	Х
1,3-Propane sultone 1120-71-4	A3	Group 2A	Reasonably Anticipated	Х

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans



Page 9/14

NTP (National Toxicology Program)

Known - Known Carcinogen

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	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Graphite	No data available	96h LC50: > 100 mg/L (Danio rerio)	No data available	No data available
Ci 77400	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 0.112 mg/L (Poecilia reticulata)	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	No data available	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	No data available	No data available
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)	No data available	48h EC50: > 100 mg/L (Daphnia magna) 48h EC50: = 1 mg/L (Daphnia magna)

Persistence and Degradability

No information available.

Bioaccumulation



Page 10/14

Component Information

Chemical name	Partition coefficient
Propylene carbonate	0.48
Ethylene carbonate	0.11

Mobility No information available. Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused

Dispose of in accordance with local regulations. Dispose of waste in accordance with

products

environmental legislation.

Contaminated packaging

Do not reuse empty containers.

California 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
Cobalt lithium manganese nickel oxide	Toxic
182442-95-1	
Ci 77000	Ignitable powder
7429-90-5	
Nickel	Toxic powder
7440-02-0	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 NON-REGULATED

Proper Shipping Name

N/A

Hazard Class Emergency Response Guide

Number

147

TDG

Not applicable



1820762 - Rechargeable Li-ion Battery L24D3PK3 by SUNWODA

Revision Date 27-Sep-2024

MEX Not applicable

Not applicable **ICAO**

IATA

UN3480 UN-No.

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class ERG Code 12FZ

UN3480, LITHIUM ION BATTERIES, 9 Description

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A F-A. S-I EmS-No.

Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to

IMDG/IMO

Not applicable RID

ADR Not applicable

Tunnel restriction code (E)

Not applicable ADN

15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

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

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



Page 12/14

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	Weight-%	SARA 313 - Threshold Values %
Cobalt lithium manganese nickel oxide -	182442-95-1	50	1.0
182442-95-1			0.1
Ci 77400 - 7440-50-8	7440-50-8	15	1.0
Ci 77000 - 7429-90-5	7429-90-5	10	1.0
Nickel - 7440-02-0	7440-02-0	2	0.1
1,3-Propane sultone - 1120-71-4	1120-71-4	0.5	0.1

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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
Cobalt lithium		X		
manganese nickel oxide				
182442-95-1				
Ci 77400		X	X	
7440-50-8				
Nickel		X	X	
7440-02-0				

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
Ci 77400	5000 lb		RQ 5000 lb final RQ
7440-50-8			RQ 2270 kg final RQ
Nickel	100 lb		RQ 100 lb final RQ
7440-02-0			RQ 45.4 kg final RQ
1,3-Propane sultone	10 lb		RQ 10 lb final RQ
1120-71-4			RQ 4.54 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Cobalt lithium manganese nickel oxide - 182442-95-1	carcinogen, 5/7/2004
Nickel - 7440-02-0	carcinogen, 10/1/1989 (metallic)
Ci 77266 - 1333-86-4	carcinogen, 2/21/2003 (airborne, unbound particles of respirable
	size)
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988

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
Cobalt lithium manganese	Χ		X	X	X
nickel oxide					
182442-95-1					
Graphite	X	X	X		
7782-42-5					
Ci 77400	Χ	X	X	X	X
7440-50-8					
Ethylene carbonate		X	X		
96-49-1					
Ci 77000	Χ	X	X	X	
7429-90-5					
Phosphate(1-),	Χ				
hexafluoro-, lithium					
21324-40-3					
Nickel	Χ	X	X	X	X
7440-02-0					
Ci 77266	Χ	X	X		X
1333-86-4					
1,3-Propane sultone	Χ	X	X	X	Х
1120-71-4					

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 25-Oct-2024

Revision Date 27-Sep-2024

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 24-Oct-2024 Revision Date 23-Oct-2024 Revision Number 1

NGHS / English



The supplier identified below generated this SDS using the UL SDS template. UL did not test, certify, or approve the substance described in this SDS, and all information in this SDS was provided by the supplier or was reproduced from publically available regulatory data sources. UL makes no representations or warranties regarding the completeness or accuracy of the information in this SDS and disclaims all liability in connection with the use of this information or the substance described in this SDS. The layout, appearance and format of this SDS is © 2014 UL LLC. All rights reserved.

1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24M4PK1 by Simplo

Other means of identification

Product Code(s) 1822943

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Skin sensitization	Category 1
Carcinogenicity	Category 1B

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



Appearance Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

May cause an allergic skin reaction May cause cancer



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 Avoid breathing dust/fume/gas/mist/vapors/spray Contaminated work clothing must not be allowed out of the workplace

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

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

Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity 33.03 % of the mixture consists of ingredient(s) of unknown toxicity

29.55 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.



Page 2/12

Mixture

Chemical name	CAS No	Weight-%	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	47.15	-	-
Graphite	7782-42-5	25.25	-	-
Ci 77400	7440-50-8	6.82	-	-
Ci 77000	7429-90-5	4.31	-	-
Propylene carbonate	108-32-7	2.15	-	-
Ethylene carbonate	96-49-1	2.15	-	-
Nickel	7440-02-0	0.5	-	-
1,3-Propane sultone	1120-71-4	0.48	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get

medical advice/attention. First aid is upon rupture of sealed battery. In case of rupture:

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. In the case of skin irritation

or allergic reactions see a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water.

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

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

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)	TWA: 0.02 mg/m ³	-	
12190-79-3			
Graphite	TWA: 2 mg/m³ respirable	TWA: 15 mg/m³ total dust	IDLH: 1250 mg/m ³
7782-42-5	particulate matter all forms	synthetic	TWA: 2.5 mg/m ³ respirable
	except graphite fibers	TWA: 5 mg/m ³ respirable	dust
		fraction synthetic	
		TWA: 15 mppcf respirable dust	



0:77400		TWA-0.0	2 6	(vacated) respirab (vacated) TV dust (vacated) respirable	natural TWA: 2.5 mg/m³ le dust natural VA: 10 mg/m³ total t synthetic) TWA: 5 mg/m³ fraction synthetic 5 mppef natural	IDL	
Ci 77400		TWA: 0.2 mg/n	n ₃ tume		1 mg/m³ fume	I IULH	I: 100 mg/m ³ dust, fume
7440-50-8					/m³ dust and mist		and mist
					WA: 0.1 mg/m³ Cu		: 1 mg/m³ dust and mist
Ci 77000		TWA: 1 mg/m³ ।	roopiroblo		fume, mist		WA: 0.1 mg/m³ fume A: 10 mg/m³ total dust
7429-90-5		fraction	•		mg/m³ total dust ng/m³ respirable		5 mg/m³ respirable dust
7429-90-5		ITACIIOI	1		ig/m³ respirable fraction	II VVA.	5 mg/m ² respirable dust
					VA: 15 mg/m³ total		
				(vacated) i v	dust		
				(vacated)) TWA: 5 mg/m ³		
				, ,	able fraction		
Nickel		TWA: 1.5 m	na/m³		A: 1 mg/m ³		IDLH: 10 mg/m ³
7440-02-0			3) TWA: 1 mg/m³		TWA: 0.015 mg/m ³
Chemical name		Alberta	British C	Columbia	Ontario TWAE	V	Quebec
Lithium Cobalt Oxide	T۷	VA: 0.02 mg/m ³	TWA: 0.0	02 mg/m ³	TWA: 0.02 mg/	m³	TWA: 0.02 mg/m ³
(CoLiO2)		· ·		· ·			
12190-79-3							
Graphite	٦	TWA: 2 mg/m ³	TWA: 2	2 mg/m³	TWA: 2 mg/m	3	TWA: 2 mg/m ³
7782-42-5							
Ci 77400		WA: 0.2 mg/m ³		mg/m³	TWA: 0.2 mg/r		TWA: 0.2 mg/m ³
7440-50-8		ΓWA: 1 mg/m ³		2 mg/m ³	TWA: 1 mg/m		TWA: 1 mg/m ³
Ci 77000	Т	WA: 10 mg/m ³	TWA: 1.	0 mg/m³	TWA: 1 mg/m	3	TWA: 10 mg/m ³
7429-90-5							
Nickel	T	WA: 1.5 mg/m ³	TWA: 0.0	05 mg/m ³	TWA: 1 mg/m	3	TWA: 1.5 mg/m ³
7440-02-0							
1,3-Propane sultone] TV	VA:	TWA:		TWA:
1120-71-4							

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

(11th Cir., 1992). See section 15 for national exposure control parameters.

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.

exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. 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

Information on basic physical and chemical properties

Physical state Solid
Appearance Black
Odor Odorless

ColorNo information availableOdor ThresholdNo information available

<u>Property</u> <u>Values</u> <u>Remarks Method</u>

No data available pН None known No data available Melting / freezing point 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

Upper flammability limitNo data availableLower flammability limitNo data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone known

Water Solubility Insoluble in water

Solubility(ies) No data available None known

Partition coefficient: n-octanol/water1

Autoignition temperatureNo data availableNone knownDecomposition temperatureNo data availableNone knownKinematic viscosityNo data availableNone knownDynamic viscosityNo data availableNone known

Other Information

No information available **Explosive properties 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 avoidNone known based on information supplied.

Incompatible materialsNone known based on information supplied.



Page 6/12

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.

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

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Itching. Rashes. Hives.

Numerical measures of toxicity

Acute toxicity

Unknown acute toxicity 33.03 % of the mixture consists of ingredient(s) of unknown toxicity

29.55 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium Cobalt Oxide (CoLiO2)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat) 4 h
Graphite	-	-	> 2000 mg/m³ (Rat) 4 h
Ci 77400	-	-	> 5.11 mg/L (Rat) 4 h
Ci 77000	-	-	> 0.888 mg/L (Rat) 4 h
Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³ (Rat) 8 h
Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h
1,3-Propane sultone	= 157 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 Contains a known or suspected carcinogen. Classification based on data available for

ingredients. May cause cancer.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide	A3	Group 2B	Reasonably Anticipated	X
(CoLiO2)				
12190-79-3				
Nickel	-	Group 2B	Reasonably Anticipated	X
7440-02-0				
1,3-Propane sultone	A3	Group 2A	Reasonably Anticipated	X
1120-71-4			·	

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2A - Probably Carcinogenic to Humans

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 exposureNo information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Graphite	No data available	96h LC50: > 100 mg/L	No data available	No data available
		(Danio rerio)		
Ci 77400	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 1.25 mg/L (Lepomis macrochirus)	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)
		96h LC50: = 0.3 mg/L (Cyprinus carpio)		
		96h LC50: = 0.8 mg/L		
		(Cyprinus carpio)		



96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: > 1000 mg/L Propylene carbonate 72h EC50: > 500 mg/L EC50 > 10000 mg/L 17 h 48h EC50: > 500 mg/L (Desmodesmus (Cyprinus carpio) (Daphnia magna) subspicatus) 96h LC50: > 100 mg/L Ethylene carbonate No data available No data available No data available (Oncorhynchus mykiss) Nickel 72h EC50: = 0.18 mg/L 96h LC50: > 100 mg/L No data available 48h EC50: > 100 mg/L (Brachydanio rerio) (Pseudokirchneriella (Daphnia magna) subcapitata) 96h LC50: = 1.3 mg/L 48h EC50: = 1 mg/L 96h EC50: 0.174 - 0.311 (Cyprinus carpio) (Daphnia magna) 96h LC50: = 10.4 mg/L mg/L (Pseudokirchneriella (Cyprinus carpio) subcapitata)

Persistence and Degradability

No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Propylene carbonate	0.48
Ethylene carbonate	0.11

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 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)	Toxic
12190-79-3	
Ci 77000	Ignitable powder
7429-90-5	
Nickel	Toxic powder
7440-02-0	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"

DOTNOT REGULATEDProper Shipping NameNON-REGULATED

Hazard Class N/A Emergency Response Guide 147

Number

TDG Not applicable

MEX Not applicable

ICAO Not applicable

IATA

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class9ERG Code12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A **EmS-No.** F-A, S-I

RID Not applicable

ADR Not applicable

ADN Not applicable

15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention 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.



·

ENCSContact supplier for inventory compliance status.KECLContact supplier for inventory compliance status.PICCSContact supplier for inventory compliance status.AICSContact 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	Weight-%	SARA 313 - Threshold Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	47.15	0.1
Ci 77400 - 7440-50-8	7440-50-8	6.82	1.0
Ci 77000 - 7429-90-5	7429-90-5	4.31	1.0
Nickel - 7440-02-0	7440-02-0	0.5	0.1
1,3-Propane sultone - 1120-71-4	1120-71-4	0.48	0.1

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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
Ci 77400 7440-50-8		X	Х	
Nickel 7440-02-0		X	Х	

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
Ci 77400	5000 lb		RQ 5000 lb final RQ
7440-50-8			RQ 2270 kg final RQ
Nickel	100 lb		RQ 100 lb final RQ
7440-02-0			RQ 45.4 kg final RQ
1,3-Propane sultone	10 lb		RQ 10 lb final RQ
1120-71-4			RQ 4.54 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, 10/1/1989 (metallic)
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988

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	Х		X	X	X
Graphite 7782-42-5	Х	Х	Х		
Ci 77400 7440-50-8	Х	Х	Х	Х	Х
Ci 77000 7429-90-5	Х	Х	Х	Х	
Ethylene carbonate 96-49-1		X	Х		
Nickel 7440-02-0	Х	Х	Х	Х	Х
1,3-Propane sultone 1120-71-4	Х	Х	Х	Х	X

16. OTHER INFORMATION

NFPA Health hazards 1 Flammability 0 Instability 0 Physical and Chemical

Properties -

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 24-Oct-2024

Revision Date 23-Oct-2024

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 26-Sep-2024

Revision Date 24-Sep-2024

Revision Number 1

NGHS / English

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1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24M3PK2 by Simplo

Other means of identification

Product Code(s) 1820048

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Carcinogenicity	Category 1B



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

Appearance Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Causes serious eye irritation May cause an allergic skin reaction May cause cancer



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

Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing must not be allowed out of the workplace

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

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

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

Unknown acute toxicity 33.03 % of the mixture consists of ingredient(s) of unknown toxicity

29.55 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)



Page 2/13

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	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	47.15	-	-
Graphite	7782-42-5	25.25	-	-
Copper	7440-50-8	6.82	-	-
Ci 77000	7429-90-5	4.31	-	-
Propylene carbonate	108-32-7	2.15	-	-
Ethylene carbonate	96-49-1	2.15	-	-
Nickel	7440-02-0	0.5	-	-
1,3-Propane sultone	1120-71-4	0.48	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get

medical advice/attention. First aid is upon rupture of sealed battery. In case of rupture:

Inhalation Remove to fresh air.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and

persists.

Skin contact Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation

or allergic reactions see a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth

to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

surrounding environment.



Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

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) TWA: 0.02 mg/m3 12190-79-3 TWA: 15 mg/m³ total dust TWA: 2 mg/m³ respirable IDLH: 1250 mg/m³ Graphite 7782-42-5 particulate matter all forms synthetic TWA: 2.5 mg/m³ respirable except graphite fibers TWA: 5 mg/m³ respirable dust fraction synthetic TWA: 15 mppcf respirable dust natural (vacated) TWA: 2.5 mg/m³ respirable dust natural (vacated) TWA: 10 mg/m3 total dust synthetic (vacated) TWA: 5 mg/m³ respirable fraction synthetic TWA: 15 mppcf natural TWA: 0.1 mg/m³ fume IDLH: 100 mg/m³ dust, fume Copper TWA: 0.2 mg/m³ fume 7440-50-8 TWA: 1 mg/m³ dust and mist and mist (vacated) TWA: 0.1 mg/m3 Cu TWA: 1 mg/m³ dust and mist TWA: 0.1 mg/m³ fume dust, fume, mist Ci 77000 TWA: 1 mg/m³ respirable TWA: 15 mg/m³ total dust TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable 7429-90-5 fraction TWA: 5 mg/m³ respirable dust fraction (vacated) TWA: 15 mg/m3 total dust (vacated) TWA: 5 mg/m³ respirable fraction Nickel TWA: 1.5 mg/m³ TWA: 1 mg/m³ IDLH: 10 mg/m³ (vacated) TWA: 1 mg/m³ TWA: 0.015 mg/m³ 7440-02-0 Chemical name British Columbia Alberta Ontario TWAEV Quebec Lithium Cobalt Oxide TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ (CoLiO2) 12190-79-3 TWA: 2 mg/m³ TWA: 2 mg/m³ TWA: 2 mg/m³ Graphite TWA: 2 mg/m³ 7782-42-5 TWA: 0.2 mg/m³ TWA: 0.2 mg/m³ TWA: 1 mg/m³ TWA: 0.2 mg/m³ Copper 7440-50-8 TWA: 1 mg/m³ TWA: 0.2 mg/m³ TWA: 1 mg/m³ TWA: 1 mg/m³ Ci 77000 TWA: 10 mg/m³ TWA: 1.0 mg/m³ TWA: 1 mg/m³ TWA: 10 mg/m³ 7429-90-5 TWA: 1.5 mg/m³ TWA: 0.05 mg/m³ TWA: 1 mg/m³ TWA: 1.5 mg/m³ Nickel 7440-02-0 1,3-Propane sultone TWA: TWA: TWA: 1120-71-4

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

(11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Showers **Engineering controls**

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.

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. Do not eat, drink or

smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face

protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid
Appearance Black
Odor Odorless

ColorNo information availableOdor ThresholdNo information available

<u>Property</u> <u>Values</u> <u>Remarks Method</u>

No data available None known pН 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

Upper flammability limit
Lower flammability limit
No data available
No data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone known

Water Solubility Insoluble in water

Solubility(ies) No data available None known

Partition coefficient: n-octanol/water1

Autoignition temperatureNo data availableNone knownDecomposition temperatureNo data availableNone knownKinematic viscosityNo data availableNone knownDynamic viscosityNo data availableNone 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 No information available **Bulk Density Particle Size** No information available No information available **Particle Size Distribution**

10. STABILITY AND REACTIVITY

Reactivity No information available.



Page 6/13

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 materialsNone 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. 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). May cause redness, itching, and pain.

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 cause irritation. Prolonged contact may

cause redness and irritation.

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

gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

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

Numerical measures of toxicity

Acute toxicity

Unknown acute toxicity 33.03 % of the mixture consists of ingredient(s) of unknown toxicity

29.55 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Component Information

Component information							
Chemical name	Oral LD50	Dermal LD50	Inhalation LC50				
Lithium Cobalt Oxide (CoLiO2)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat) 4 h				
Graphite	-	-	> 2000 mg/m³ (Rat) 4 h				
Copper	-	-	> 5.11 mg/L (Rat) 4 h				
Ci 77000	-	-	> 0.888 mg/L (Rat) 4 h				



	Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Г	Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³(Rat)8 h
Γ	Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h
Γ	1.3-Propane sultone	= 157 mg/kg (Rat)	-	-

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

Skin corrosion/irritation May cause skin irritation.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye irritation.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

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

ingredients. May cause cancer.

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	Х
1,3-Propane sultone 1120-71-4	А3	Group 2A	Reasonably Anticipated	Х

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2A - Probably Carcinogenic to Humans

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

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea
			microorganisms	
Graphite	No data available	96h LC50: > 100 mg/L	No data available	No data available
		(Danio rerio)		



72h EC50: 0.0426 -

72h EC50: > 500 mg/L

(Desmodesmus

subspicatus)

No data available

72h EC50: = 0.18 mg/L

(Pseudokirchneriella

subcapitata)

96h EC50: 0.174 - 0.311

mg/L

(Pseudokirchneriella

subcapitata)

48h EC50: = 0.03 mg/L

48h EC50: > 500 mg/L

(Daphnia magna)

No data available

48h EC50: > 100 mg/L

(Daphnia magna)

48h EC50: = 1 mg/L

(Daphnia magna)

No data available

EC50 > 10000 mg/L 17 h

No data available

No data available

0.0535 mg/L 0.0156 mg/L (Pimephales (Daphnia magna) (Pseudokirchneriella promelas) 96h LC50: < 0.3 mg/L subcapitata) 96h EC50: 0.031 - 0.054 (Pimephales promelas) mg/L 96h LC50: = 0.2 mg/L (Pimephales promelas) (Pseudokirchneriella 96h LC50: = 0.052 mg/L subcapitata) (Oncorhynchus mykiss) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L

> (Cyprinus carpio) 96h LC50: = 0.112 mg/L (Poecilia reticulata)

> 96h LC50: > 1000 mg/L

(Cyprinus carpio)

96h LC50: > 100 mg/L

(Oncorhynchus mykiss)

96h LC50: > 100 mg/L

(Brachydanio rerio)

96h LC50: = 1.3 mg/L

(Cyprinus carpio)

96h LC50: = 10.4 mg/L

(Cyprinus carpio)

96h LC50: 0.0068 -

Persistence and Degradability

No information available.

Bioaccumulation

Component Information

Copper

Propylene carbonate

Ethylene carbonate

Nickel

Chemical name	Partition coefficient	
Propylene carbonate	0.48	
Ethylene carbonate	0.11	

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 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)	Toxic
12190-79-3	
Ci 77000	Ignitable powder
7429-90-5	
Nickel	Toxic powder
7440-02-0	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

Proper Shipping Name NON-REGULA

Hazard Class

Emergency Response Guide 147

Number

NOT REGULATED NON-REGULATED

Not applicable

N/A

MEX Not applicable

ICAO Not applicable

<u>IATA</u>

TDG

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class 9

ERG Code 12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A EmS-No. F-A, S-I

RID Not applicable

ADR Not applicable

ADN Not applicable



Page 10/13

15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA

DSL/NDSL

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	Weight-%	SARA 313 - Threshold Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	47.15	0.1
Copper - 7440-50-8	7440-50-8	6.82	1.0
Ci 77000 - 7429-90-5	7429-90-5	4.31	1.0
Nickel - 7440-02-0	7440-02-0	0.5	0.1
1,3-Propane sultone - 1120-71-4	1120-71-4	0.48	0.1

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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		Х	Х	



Nickel	X	X	
7440-02-0			

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	5000 lb		RQ 5000 lb final RQ
7440-50-8			RQ 2270 kg final RQ
Nickel	100 lb		RQ 100 lb final RQ
7440-02-0			RQ 45.4 kg final RQ
1,3-Propane sultone	10 lb		RQ 10 lb final RQ
1120-71-4			RQ 4.54 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, 10/1/1989 (metallic)		
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988		

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	Х		X	Х	X
Graphite 7782-42-5	Х	X	Х		
Copper 7440-50-8	Х	X	Х	Х	X
Ci 77000 7429-90-5	Х	Х	Х	Х	
Ethylene carbonate 96-49-1		X	Х		
Nickel 7440-02-0	Х	X	Х	Х	Х
1,3-Propane sultone 1120-71-4	Х	X	Х	Х	X

16. OTHER INFORMATION

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

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 26-Sep-2024

Revision Date 24-Sep-2024

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



Page 13/13

SAFETY DATA SHEET

Issuing Date No data available

Revision Date 24-Sep-2024

Revision Number 1

NGHS / English



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1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24M3PK3 by Simplo

Other means of identification

Product Code(s) 1820050

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Skin sensitization	Category 1
Carcinogenicity	Category 1B

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



Appearance Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

May cause an allergic skin reaction May cause cancer



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 Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing must not be allowed out of the workplace

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

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

Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity 33.03 % of the mixture consists of ingredient(s) of unknown toxicity

29.55 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.



Page 2/12

Mixture

Chemical name	CAS No	Weight-%	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	47.15	-	-
Graphite	7782-42-5	25.25	-	-
Ci 77400	7440-50-8	6.82	-	-
Ci 77000	7429-90-5	4.31	-	-
Propylene carbonate	108-32-7	2.15	-	-
Ethylene carbonate	96-49-1	2.15	-	-
Nickel	7440-02-0	0.5	-	-
1,3-Propane sultone	1120-71-4	0.48	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get

medical advice/attention. First aid is upon rupture of sealed battery. In case of rupture:

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. In the case of skin irritation

or allergic reactions see a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water.

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

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

Product is or contains a sensitizer. May cause sensitization by skin contact.

Hazardous Combustion Products Carbon oxides.



Page 3/12

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

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal Personal precautions

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

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

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

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

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. **Storage Conditions**

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)	TWA: 0.02 mg/m ³	-		
12190-79-3				
Graphite	Graphite TWA: 2 mg/m³ respirable		IDLH: 1250 mg/m ³	
7782-42-5	particulate matter all forms	synthetic	TWA: 2.5 mg/m ³ respirable	
	except graphite fibers	TWA: 5 mg/m ³ respirable	dust	
		fraction synthetic		
		TWA: 15 mppcf respirable dust		



					natural			
				(vacated)	TWA: 2.5 mg/m ³			
				respirable dust natural				
				(vacated) TWA: 10 mg/m³ total				
				dust	synthetic			
				(vacated) TWA: 5 mg/m ³			
				respirable f	fraction synthetic			
				TWA: 15	5 mppcf natural			
Ci 77400		TWA: 0.2 mg/n	n³ fume	TWA: 0.1 mg/m³ fume		IDLH	IDLH: 100 mg/m ³ dust, fume	
7440-50-8		Ü		TWA: 1 mg	m ³ dust and mist		and mist	
					WA: 0.1 mg/m ³ Cu	TWA:	1 mg/m ³ dust and mist	
					, fume, mist	T\	VA: 0.1 mg/m ³ fume	
Ci 77000		TWA: 1 mg/m ³ r	respirable		mg/m³ total dust		A: 10 mg/m³ total dust	
7429-90-5		fraction		TWA: 5 m	ıg/m³ respirable	TWA:	5 mg/m ³ respirable dust	
				fraction				
				(vacated) TV	VA: 15 mg/m³ total			
				,	dust			
				(vacated) TWA: 5 mg/m ³			
				respir	able fraction			
Nickel		TWA: 1.5 m	ng/m³	TW	A: 1 mg/m ³		IDLH: 10 mg/m ³	
7440-02-0			J	(vacated)) TWA: 1 mg/m ³		TWA: 0.015 mg/m ³	
Chemical name		Alberta	British C	olumbia	Ontario TWAE	V	Quebec	
Lithium Cobalt Oxide	TV	VA: 0.02 mg/m ³	TWA: 0.0	02 mg/m ³	TWA: 0.02 mg/	m³	TWA: 0.02 mg/m ³	
(CoLiO2)		· ·		· ·				
12190-79-3								
Graphite	Т	WA: 2 mg/m ³	TWA: 2	2 mg/m ³	TWA: 2 mg/m	3	TWA: 2 mg/m ³	
7782-42-5		· ·		J				
Ci 77400	T\	TWA: 0.2 mg/m ³ TWA:		mg/m³	TWA: 0.2 mg/m ³		TWA: 0.2 mg/m ³	
7440-50-8				2 mg/m³			TWA: 1 mg/m ³	
Ci 77000		•		0 mg/m ³	TWA: 1 mg/m ³		TWA: 10 mg/m ³	
7429-90-5		Č		Ü				
Nickel	T	WA: 1.5 mg/m ³	TWA: 0.0	05 mg/m ³	TWA: 1 mg/m	3	TWA: 1.5 mg/m ³	
7440-02-0		J		Ŭ			[
1,3-Propane sultone			TV	VA:	TWA:		TWA:	
1120-71-4								

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

(11th Cir., 1992). See section 15 for national exposure control parameters.

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 protectionWear suitable protective clothing.

exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. 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

Information on basic physical and chemical properties

Physical state Solid
Appearance Black
Odor Odorless

ColorNo information availableOdor ThresholdNo information available

<u>Property</u> <u>Values</u> <u>Remarks Method</u>

No data available рΗ None known No data available None known Melting / freezing point 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

Upper flammability limit
Lower flammability limit
No data available
No data available
No data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone known

Water Solubility Insoluble in water

Solubility(ies) No data available None known

Partition coefficient: n-octanol/water1

Autoignition temperatureNo data availableNone knownDecomposition temperatureNo data availableNone knownKinematic viscosityNo data availableNone knownDynamic viscosityNo data availableNone 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 No information available **Liquid Density 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 avoidNone known based on information supplied.

Incompatible materialsNone known based on information supplied.



Page 6/12

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.

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

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Itching. Rashes. Hives.

Numerical measures of toxicity

Acute toxicity

Unknown acute toxicity 33.03 % of the mixture consists of ingredient(s) of unknown toxicity

29.55 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

33.03 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50	
Lithium Cobalt Oxide (CoLiO2)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat) 4 h	
Graphite	-	-	> 2000 mg/m³ (Rat) 4 h	
Ci 77400	-	-	> 5.11 mg/L (Rat) 4 h	
Ci 77000	-	-	> 0.888 mg/L (Rat) 4 h	
Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-	
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³ (Rat) 8 h	
Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h	
1,3-Propane sultone	= 157 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

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

ingredients. May cause cancer.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide	A3	Group 2B Reasonably Anticipated		X
(CoLiO2)				
12190-79-3				
Nickel	-	Group 2B	Reasonably Anticipated	X
7440-02-0				
1,3-Propane sultone	A3	Group 2A	Reasonably Anticipated	X
1120-71-4			·	

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2A - Probably Carcinogenic to Humans

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 exposureNo information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Graphite	No data available	96h LC50: > 100 mg/L	No data available	No data available
		(Danio rerio)		
Ci 77400	72h EC50: 0.0426 -	96h LC50: 0.0068 -	No data available	48h EC50: = 0.03 mg/L
		0.0156 mg/L (Pimephales		(Daphnia magna)
	(Pseudokirchneriella	promelas)		
	subcapitata)	96h LC50: < 0.3 mg/L		
	96h EC50: 0.031 - 0.054	(Pimephales promelas)		
	mg/L	96h LC50: = 0.2 mg/L		
	(Pseudokirchneriella	(Pimephales promelas)		
	subcapitata)	96h LC50: = 0.052 mg/L		
		(Oncorhynchus mykiss)		
		96h LC50: = 1.25 mg/L		
		(Lepomis macrochirus)		
		96h LC50: = 0.3 mg/L		
		(Cyprinus carpio)		
		96h LC50: = 0.8 mg/L		
		(Cyprinus carpio)		



		96h LC50: = 0.112 mg/L		
		(Poecilia reticulata)		
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	No data available	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	No data available	No data available
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)	No data available	48h EC50: > 100 mg/L (Daphnia magna) 48h EC50: = 1 mg/L (Daphnia magna)

Persistence and Degradability

No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Propylene carbonate	0.48
Ethylene carbonate	0.11

MobilityNo information available.Other adverse effectsNo 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 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)	Toxic	
12190-79-3		
Ci 77000	Ignitable powder	
7429-90-5		
Nickel	Toxic powder	
7440-02-0	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 applicable

Not applicable MEX

Not applicable **ICAO**

IATA

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class ERG Code 12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

IMDG/IMO Not applicable

NON-REGULATED PER SP 188 **Proper Shipping Name**

Hazard Class N/A EmS-No. F-A, S-I

Not applicable RID

ADR Not applicable

ADN Not applicable

15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention 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.



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ENCSContact supplier for inventory compliance status.KECLContact supplier for inventory compliance status.PICCSContact supplier for inventory compliance status.AICSContact 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	Weight-%	SARA 313 - Threshold Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	47.15	0.1
Ci 77400 - 7440-50-8	7440-50-8	6.82	1.0
Ci 77000 - 7429-90-5	7429-90-5	4.31	1.0
Nickel - 7440-02-0	7440-02-0	0.5	0.1
1,3-Propane sultone - 1120-71-4	1120-71-4	0.48	0.1

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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
Ci 77400 7440-50-8		X	Х	
Nickel 7440-02-0		X	Х	

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
	Ci 77400	5000 lb		RQ 5000 lb final RQ
	7440-50-8			RQ 2270 kg final RQ
	Nickel	100 lb		RQ 100 lb final RQ
	7440-02-0			RQ 45.4 kg final RQ
Ī	1,3-Propane sultone	10 lb		RQ 10 lb final RQ
	1120-71-4			RQ 4.54 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, 10/1/1989 (metallic)
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988

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	Х		X	Х	X
Graphite 7782-42-5	Х	Х	Х		
Ci 77400 7440-50-8	Х	Х	Х	Х	Х
Ci 77000 7429-90-5	X	X	Х	Х	
Ethylene carbonate 96-49-1		X	Х		
Nickel 7440-02-0	Х	X	Х	Х	Х
1,3-Propane sultone 1120-71-4	Х	Х	Х	Х	Х

16. OTHER INFORMATION

NFPA Health hazards 1 Flammability 0 Instability 0 Physical and Chemical

Properties -

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

Revision Date 24-Sep-2024

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 26-Sep-2024

Revision Date 24-Sep-2024

Revision Number 1

NGHS / English

The supplier identified below generated this SDS using the UL SDS template. UL did not test, certify, or approve the substance described in this SDS, and all information in this SDS was provided by the supplier or was reproduced from publically available regulatory data sources. UL makes no representations or warranties regarding the completeness or accuracy of the information in this SDS and disclaims all liability in connection with the use of this information or the substance described in this SDS. The layout, appearance and format of this SDS is © 2014 UL LLC. All rights reserved.

1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24N3PK1 by NVT

Other means of identification

Product Code(s) 1820037

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Vapors)	Category 2
Skin corrosion/irritation	Category 1 Sub-category B



Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1

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

Appearance Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Harmful if swallowed Harmful in contact with skin Fatal if inhaled

Causes severe skin burns and eye damage

May cause cancer

May cause respiratory irritation. May cause drowsiness or dizziness 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

Do not eat, drink or smoke when using this product

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Precautionary Statements - Response

Specific treatment is urgent (see supplemental first aid instructions on this label)

Immediately call a POISON CENTER or doctor

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor

Skin

Call a POISON CENTER or doctor if you feel unwell

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

Rinse mouth



Page 2/14

Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity

30 % of the mixture consists of ingredient(s) of unknown toxicity

- 25 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 30 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 30 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 30 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 30 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

<u>Mixture</u>

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Cobalt lithium manganese nickel oxide	182442-95-1	40	-	-
Copper	7440-50-8	30	-	-
Aluminum foil	7429-90-5	30	-	-
Graphite	7782-42-5	25	-	-
Propylene carbonate	108-32-7	15	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	15	-	-
Ethylene carbonate	96-49-1	15	-	-
1,3-Propane sultone	1120-71-4	1	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

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

Inhalation

If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.



Page 3/14

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present

and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contactWash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. 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. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more

information. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Burning sensation. Inhalation of high

vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea

and vomiting.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood

pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. FIRE-FIGHTING MEASURES

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition

can lead to release of irritating gases and vapors.

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. Avoid generation of dust. Do not breathe dust. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Attention!

Corrosive material.

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. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated

clothing and wash before reuse. Avoid breathing vapors or mists.

Conditions for safe storage, including any incompatibilities

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

of children. Store locked up. Protect from moisture. Store away from other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Cobalt lithium manganese	TWA: 0.02 mg/m ³ Co inhalable	(vacated) Ceiling: 5 mg/m ³	IDLH: 500 mg/m ³ Mn
nickel oxide	particulate matter	Ceiling: 5 mg/m ³ Mn	IDLH: 10 mg/m ³ Ni
182442-95-1	TWA: 0.02 mg/m³ Mn respirable		TWA: 1 mg/m³ Mn
	particulate matter		TWA: 0.015 mg/m ³ except
	TWA: 0.1 mg/m ³ Mn inhalable		Nickel carbonyl Ni
	particulate matter		STEL: 3 mg/m ³ Mn
Copper	TWA: 0.2 mg/m ³ fume	TWA: 0.1 mg/m ³ fume	IDLH: 100 mg/m ³ dust, fume
7440-50-8		TWA: 1 mg/m³ dust and mist	and mist
		(vacated) TWA: 0.1 mg/m³ Cu	TWA: 1 mg/m ³ dust and mist
		dust, fume, mist	TWA: 0.1 mg/m ³ fume
Aluminum foil	TWA: 1 mg/m³ respirable	TWA: 15 mg/m³ total dust	TWA: 10 mg/m³ total dust
7429-90-5	particulate matter	TWA: 5 mg/m³ respirable	TWA: 5 mg/m³ respirable dust
		fraction	
		(vacated) TWA: 15 mg/m³ total	
		dust	
		(vacated) TWA: 5 mg/m ³	
		respirable fraction	



Graphite		T\Λ/Λ · 2 mg/m ³	respirable	Τ\Λ/Λ · 15 r	ma/m³ total duet		IDLH: 1250 mg/m ³
Graphite TWA: 2 mg/m³ respirable particulate matter all forms		TWA: 15 mg/m³ total dust synthetic		TWA: 2.5 mg/m ³ respirable			
1102-42-5	except graphite fibers				IVVA	dust	
				dust			
			fraction synthetic TWA: 15 mppcf respirable dust				
					natural		
					TWA: 2.5 mg/m ³		
				, ,	le dust natural		
					VA: 10 mg/m ³ total		
				,	synthetic		
					TWA: 5 mg/m ³		
				·	raction synthetic		
					mppcf natural		
Phosphate(1-), hexafluo	ro-	TWA: 2.5 m	n/m ³ F		2.5 mg/m³ F		IDLH: 250 mg/m ³ F
lithium	10-,	1 777. 2.3 111	9/111 1		TWA: 2.5 mg/m ³		IDEH. 230 Mg/III T
21324-40-3				(vacated)	1 VVA. 2.5 mg/m		
Chemical name		Alberta	British C	Columbia	Ontario TWAE	V	Quebec
Cobalt lithium	ΤV	VA: 0.02 mg/m ³	TWA: 0.0	02 mg/m ³	TWA: 0.02 mg/r	n ³	TWA: 0.2 mg/m ³
manganese nickel oxide		WA: 0.2 mg/m ³		.2 mg/m ³	TWA: 0.1 mg/m		TWA: 0.05 mg/m ³
182442-95-1				g	J	-	TWA: 0.02 mg/m ³
Copper	T	WA: 0.2 mg/m ³	TWA: 1	l mg/m³	TWA: 0.2 mg/m	n ³	TWA: 0.2 mg/m ³
7440-50-8		WA: 1 mg/m ³		.2 mg/m ³	TWA: 1 mg/m ²		TWA: 1 mg/m ³
Aluminum foil		WA: 10 mg/m ³		.0 mg/m ³	TWA: 1 mg/m ²		TWA: 10 mg/m ³
7429-90-5	•	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · ·	,		[g,
Graphite	7	WA: 2 mg/m ³	TWA: 2	2 mg/m³	TWA: 2 mg/m ²	3	TWA: 2 mg/m ³
7782-42-5		- · · · · · · · · · · · · · · · · · · ·					
Phosphate(1-),	T\	WA: 2.5 mg/m ³	TWA: 2.	.5 mg/m ³	TWA: 2.5 mg/m	1 ³	TWA: 2.5 mg/m ³
hexafluoro-, lithium		Ü		J			
21324-40-3							
1,3-Propane sultone			TV	VA:	TWA:		TWA:
1120-71-4							

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

(11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls

Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield.

Hand protection Wear suitable gloves. Impervious gloves.

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

Respiratory protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

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 breathe dust. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated



clothing and gloves, including the inside, before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid
Appearance Black
Odor Odorless

ColorNo information availableOdor ThresholdNo information available

<u>Property</u> <u>Values</u> <u>Remarks Method</u>

No data available рΗ None known No data available None known Melting / freezing point 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

Upper flammability limitNo data availableLower flammability limitNo data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone known

Water Solubility Insoluble in water

Solubility(ies) No data available None known

Partition coefficient: n-octanol/water1

Autoignition temperatureNo data availableNone knownDecomposition temperatureNo data availableNone knownKinematic viscosityNo data availableNone knownDynamic viscosityNo data availableNone 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 No information available **Liquid Density Bulk Density** No information available No information available **Particle Size** No information available **Particle Size Distribution**

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 Excessive heat. Exposure to air or moisture over prolonged periods.

Incompatible materials Acids. Bases. Oxidizing agent.



Page 7/14

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. Fatal if inhaled. (based on

components). Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause drowsiness or dizziness.

Eye contact Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Corrosive to the eyes and may cause severe damage including blindness.

Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. 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. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Redness. Burning. May cause

blindness. Inhalation of high vapor concentrations may cause symptoms like headache,

dizziness, tiredness, nausea and vomiting.

Numerical measures of toxicity

Acute toxicity

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

ATEmix (oral) 1,943.10 mg/kg
ATEmix (dermal) 1,375.00 mg/kg
ATEmix (inhalation-vapor) 0.877 mg/L

Unknown acute toxicity 30 % of the mixture consists of ingredient(s) of unknown toxicity

25 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

30 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

30 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

30 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

30 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Component Information

Chemical name Oral LD50 Dermal LD50 Inhalation LC50



Copper > 5.11 mg/L (Rat) 4 h Aluminum foil > 0.888 mg/L(Rat)4h Graphite > 2000 mg/m³ (Rat) 4 h = 29000 mg/kg (Rat) > 3000 mg/kg (Rabbit) Propylene carbonate Ethylene carbonate = 10 g/kg (Rat)> 26420 mg/kg (Rabbit) $> 730 \text{ mg/m}^3$ (Rat) 8 h 1,3-Propane sultone = 157 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. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

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

ingredients. May cause cancer.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Cobalt lithium	A3	Group 2B	Reasonably Anticipated	X
manganese nickel oxide 182442-95-1		Group 1	Known	
1,3-Propane sultone 1120-71-4	A3	Group 2A	Reasonably Anticipated	Х

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicityNo information available.

STOT - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

STOT - repeated exposureCauses 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	Algae/aquatic plants	Fish	Toxicity to	Crustacea
•				



Page 9/14

			microorganisms	
Copper	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 0.112 mg/L (Poecilia reticulata)	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)
Graphite	No data available	96h LC50: > 100 mg/L (Danio rerio)	No data available	No data available
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	No data available	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	No data available	No data available

Persistence and Degradability

No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Propylene carbonate	0.48
Ethylene carbonate	0.11

MobilityNo information available.Other adverse effectsNo 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 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	
Cobalt lithium manganese nickel oxide	Toxic	



182442-95-1	
Aluminum foil 7429-90-5	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 147

Number

TDG Not applicable

MEX Not applicable

ICAO Not applicable

<u>IATA</u>

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class 9

ERG Code 12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A **EmS-No.** F-A, S-I

Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to

IMDG/IMO

ADR Not applicable

Not applicable

Not applicable

15. REGULATORY INFORMATION

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



International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA

Contact supplier for inventory compliance status.

KECL

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	Weight-%	SARA 313 - Threshold Values %
Cobalt lithium manganese nickel oxide - 182442-95-1	182442-95-1	40	1.0 0.1
Copper - 7440-50-8	7440-50-8	30	1.0
Aluminum foil - 7429-90-5	7429-90-5	30	1.0
1,3-Propane sultone - 1120-71-4	1120-71-4	1	0.1

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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	CWA - Toxic Pollutants	CWA - Priority	CWA - Hazardous
	Quantities		Pollutants	Substances
Cobalt lithium		X		
manganese nickel oxide				
182442-95-1				
Copper		X	X	
7440-50-8				

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	RQ
		Substances RQs	
Copper	5000 lb		RQ 5000 lb final RQ
7440-50-8			RQ 2270 kg final RQ
Aluminum foil			
7429-90-5			
1,3-Propane sultone	10 lb		RQ 10 lb final RQ
1120-71-4			RQ 4.54 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Cobalt lithium manganese nickel oxide - 182442-95-1	carcinogen, 5/7/2004
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988

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
Cobalt lithium manganese nickel oxide 182442-95-1	X		X	X	X
Copper 7440-50-8	Х	Х	Х	Х	Х
Aluminum foil 7429-90-5	Х	Х	Х	Х	
Graphite 7782-42-5	Х	Х	Х		
Phosphate(1-), hexafluoro-, lithium 21324-40-3	Х				
Ethylene carbonate 96-49-1		X	Х		
1,3-Propane sultone 1120-71-4	Х	X	Х	Х	Х

NFPA	Health hazards 1	Flammability 0	Instability 0	Physical and Chemical

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

16. OTHER INFORMATION

Prepared By
Product Stewardship
23 British American Blvd.

Latham, NY 12110 1-800-572-6501

Issuing Date 26-Sep-2024

Revision Date 24-Sep-2024



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 26-Sep-2024

Revision Date 24-Sep-2024

Revision Number 1

NGHS / English



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1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24N3PK2 by NVT

Other means of identification

Product Code(s) 1820044

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Inhalation (Vapors)	Category 2
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	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 Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Fatal if inhaled

Causes severe skin burns and eye damage

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

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Precautionary Statements - Response

Specific treatment is urgent (see supplemental first aid instructions on this label)

Immediately call a POISON CENTER or doctor

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant



Page 2/13

Other information

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

Unknown acute toxicity

18.5 % of the mixture consists of ingredient(s) of unknown toxicity

16 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

18.5 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

18.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

18.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

18.5 % 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	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Cobalt lithium	182442-95-1	27.5	-	-
manganese nickel oxide				
Ci 77400	7440-50-8	20	-	-
Aluminum foil	7429-90-5	20	-	-
Graphite	7782-42-5	16	-	-
Propylene carbonate	108-32-7	7.5	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	7.5	-	-
Ethylene carbonate	96-49-1	7.5	-	-
1,3-Propane sultone	1120-71-4	0.5	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance. IF exposed or concerned: Get medical advice/attention. First aid is upon

rupture of sealed battery. In case of rupture:

Inhalation If breathing has stopped, give artificial respiration. Get medical attention immediately.

Remove to fresh air. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get

immediate medical advice/attention.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present

and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contactWash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. 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. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood

pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. FIRE-FIGHTING MEASURES

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing mediaDo not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

chemicai

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition

can lead to release of irritating gases and vapors.

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. Avoid generation of

dust. Do not breathe dust. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Attention!

Corrosive material.

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. Do not breathe dust. Avoid generation of dust. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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. Protect from moisture. Store away from other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name ACGIH TLV		OSHA PEL	NIOSH IDLH
Cobalt lithium manganese	TWA: 0.02 mg/m ³ Co inhalable	(vacated) Ceiling: 5 mg/m ³	IDLH: 500 mg/m ³ Mn
nickel oxide	nickel oxide particulate matter 182442-95-1 TWA: 0.02 mg/m³ Mn respirable		IDLH: 10 mg/m ³ Ni
182442-95-1			TWA: 1 mg/m³ Mn
	particulate matter		TWA: 0.015 mg/m³ except
	TWA: 0.1 mg/m³ Mn inhalable		Nickel carbonyl Ni
	particulate matter		STEL: 3 mg/m³ Mn
Ci 77400	TWA: 0.2 mg/m³ fume	TWA: 0.1 mg/m³ fume	IDLH: 100 mg/m ³ dust, fume
7440-50-8		TWA: 1 mg/m³ dust and mist	and mist
		(vacated) TWA: 0.1 mg/m ³ Cu	TWA: 1 mg/m ³ dust and mist
		dust, fume, mist	TWA: 0.1 mg/m ³ fume
Aluminum foil	TWA: 1 mg/m³ respirable	TWA: 15 mg/m³ total dust	TWA: 10 mg/m³ total dust
7429-90-5	particulate matter	TWA: 5 mg/m³ respirable	TWA: 5 mg/m³ respirable dust
		fraction	
		(vacated) TWA: 15 mg/m³ total dust	
		(vacated) TWA: 5 mg/m ³	
		respirable fraction	
Graphite	TWA: 2 mg/m³ respirable	TWA: 15 mg/m³ total dust	IDLH: 1250 mg/m ³
7782-42-5	particulate matter all forms	synthetic	TWA: 2.5 mg/m³ respirable
	except graphite fibers	TWA: 5 mg/m³ respirable	dust
		fraction synthetic	
		TWA: 15 mppcf respirable dust	
		natural	
		(vacated) TWA: 2.5 mg/m ³	
		respirable dust natural	
		(vacated) TWA: 10 mg/m³ total	
		dust synthetic	



Phosphate(1-), hexafluc lithium 21324-40-3	oro-,	TWA: 2.5 mզ	g/m³ F	respirable f TWA: 15 TWA:) TWA: 5 mg/m³ fraction synthetic 5 mppcf natural 2.5 mg/m³ F TWA: 2.5 mg/m³		IDLH: 250 mg/m³ F
Chemical name		Alberta	British C	olumbia	Ontario TWAE	V	Quebec
Cobalt lithium manganese nickel oxide 182442-95-1 Ci 77400 7440-50-8 Aluminum foil 7429-90-5 Graphite	T' T T	VA: 0.02 mg/m ³ WA: 0.2 mg/m ³ WA: 0.2 mg/m ³ WA: 1 mg/m ³ WA: 10 mg/m ³ FWA: 2 mg/m ³	TWA: 0. TWA: 1 TWA: 0. TWA: 1.	mg/m³ 2 mg/m³	TWA: 0.02 mg/n TWA: 0.1 mg/n TWA: 0.2 mg/n TWA: 1 mg/m TWA: 1 mg/m TWA: 2 mg/m	n ³ n ³ 3	TWA: 0.2 mg/m³ TWA: 0.05 mg/m³ TWA: 0.02 mg/m³ TWA: 0.2 mg/m³ TWA: 1.2 mg/m³ TWA: 10 mg/m³ TWA: 2 mg/m³
7782-42-5 Phosphate(1-), hexafluoro-, lithium 21324-40-3	T'	WA: 2.5 mg/m ³	TWA: 2.	5 mg/m³	TWA: 2.5 mg/n	n³	TWA: 2.5 mg/m ³
1,3-Propane sultone 1120-71-4			TV	/A:	TWA:		TWA:

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

(11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls

Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield.

Hand protection Wear suitable gloves. Impervious gloves.

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

Respiratory protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. Do not breathe dust. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated

clothing and gloves, including the inside, before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid
Appearance Black
Odor Odorless



Color No information available

Odor Threshold No information available

<u>Property</u> <u>Values</u> <u>Remarks Method</u>

No data available pН 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

Upper flammability limit
Lower flammability limit
No data available
No data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone known

Water Solubility Insoluble in water

Solubility(ies) No data available None known

Partition coefficient: n-octanol/water1

Autoignition temperatureNo data availableNone knownDecomposition temperatureNo data availableNone knownKinematic viscosityNo data availableNone knownDynamic viscosityNo data availableNone 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 No information available **Bulk Density 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 Excessive heat. Exposure to air or moisture over prolonged periods.

Incompatible materials Acids. Bases. Oxidizing agent.

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. Fatal if inhaled. (based on

components). Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic

edema of the lungs. Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Corrosive to the eyes and may cause severe damage including blindness.

Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. May be harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Redness. Burning. May cause

blindness.

Numerical measures of toxicity

Acute toxicity

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

 ATEmix (oral)
 4,384.60 mg/kg

 ATEmix (dermal)
 3,260.00 mg/kg

 ATEmix (inhalation-vapor)
 1.485 mg/L

Unknown acute toxicity

18.5 % of the mixture consists of ingredient(s) of unknown toxicity

16 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

18.5 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

18.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

18.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

18.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50	
Ci 77400	-	-	> 5.11 mg/L (Rat) 4 h	
Aluminum foil	Aluminum foil - Graphite -		> 0.888 mg/L (Rat) 4 h	
Graphite			> 2000 mg/m³ (Rat) 4 h	
Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-	
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³ (Rat) 8 h	
1,3-Propane sultone	= 157 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. Causes burns.



Page 8 / 13

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

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

ingredients. May cause cancer.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Cobalt lithium	A3	Group 2B	Reasonably Anticipated	X
manganese nickel oxide 182442-95-1		Group 1	Known	
1,3-Propane sultone 1120-71-4	А3	Group 2A	Reasonably Anticipated	Х

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

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	Algae/aquatic plants	Fish	Toxicity to	Crustacea
L				microorganisms	
	Ci 77400	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss)	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)
			96h LC50: = 1.25 mg/L (Lepomis macrochirus)		



		96h LC50: = 0.3 mg/L		
		(Cyprinus carpio)		
		96h LC50: = 0.8 mg/L		
		(Cyprinus carpio)		
		96h LC50: = 0.112 mg/L		
		(Poecilia reticulata)		
Graphite	No data available	96h LC50: > 100 mg/L	No data available	No data available
		(Danio rerio)		
Propylene carbonate	72h EC50: > 500 mg/L	96h LC50: > 1000 mg/L	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L
	(Desmodesmus	(Cyprinus carpio)		(Daphnia magna)
	subspicatus)			-
Ethylene carbonate	No data available	96h LC50: > 100 mg/L	No data available	No data available
		(Oncorhynchus mykiss)		

Persistence and Degradability

No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient			
Propylene carbonate	0.48			
Ethylene carbonate	0.11			

MobilityNo information available.Other adverse effectsNo 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 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	
Cobalt lithium manganese nickel oxide 182442-95-1	Toxic	
Aluminum foil 7429-90-5	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 Emergency Response Guide

Number

N/A 147

TDG Not applicable

MEX Not applicable

ICAO Not applicable

<u>IATA</u>

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class 9 ERG Code 12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A EmS-No. F-A, S-I

Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to

IMDG/IMO

RID Not applicable

ADR Not applicable

ADN Not applicable

15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention 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.



KECLContact supplier for inventory compliance status.PICCSContact supplier for inventory compliance status.AICSContact 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	Weight-%	SARA 313 - Threshold Values %
Cobalt lithium manganese nickel oxide - 182442-95-1	182442-95-1	27.5	1.0 0.1
Ci 77400 - 7440-50-8	7440-50-8	20	1.0
Aluminum foil - 7429-90-5	7429-90-5	20	1.0
1,3-Propane sultone - 1120-71-4	1120-71-4	0.5	0.1

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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
Cobalt lithium manganese nickel oxide 182442-95-1		X		
Ci 77400 7440-50-8		X	Х	

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
Ci 77400 7440-50-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Aluminum foil 7429-90-5			
1,3-Propane sultone 1120-71-4	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ



US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65	
Cobalt lithium manganese nickel oxide - 182442-95-1	carcinogen, 5/7/2004	
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988	

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
Cobalt lithium manganese	X		Х	Х	X
nickel oxide 182442-95-1					
Ci 77400 7440-50-8	Х	Х	Х	Х	Х
Aluminum foil 7429-90-5	Х	X	Х	Х	
Graphite 7782-42-5	Х	X	Х		
Phosphate(1-), hexafluoro-, lithium 21324-40-3	Х				
Ethylene carbonate 96-49-1		X	Х		
1,3-Propane sultone 1120-71-4	Χ	X	Х	X	X

16. OTHER INFORMATION

NFPA Health hazards 1 Flammability 0 Instability 0 Physical and Chemical

Properties -

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 26-Sep-2024

Revision Date 24-Sep-2024

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 26-Sep-2024

Revision Date 24-Sep-2024

Revision Number 1

NGHS / English



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1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24X3PK2 by CosMX

Other means of identification

Product Code(s) 1820028

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
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 Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Causes severe skin burns and eye damage
May cause an allergic skin reaction
May cause cancer
Causes demage to organs through prolonged or a

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

Immediately call a POISON CENTER or doctor

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 Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information



Page 2/15

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

Unknown acute toxicity

54 % of the mixture consists of ingredient(s) of unknown toxicity

51 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

54 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

54 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

54 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

54 % 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	Weight-%	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	50	-	-
Graphite	7782-42-5	30	-	-
Propylene carbonate	108-32-7	10	-	-
Ethylene carbonate	96-49-1	10	-	-
Copper	7440-50-8	10	-	-
Aluminum	7429-90-5	10	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	5	-	-
Glass fiber	65997-17-3	3	-	-
Nickel	7440-02-0	2	-	-
Carbon black	1333-86-4	2	-	-
Sodium carboxymethyl cellulose	9004-32-4	1	-	-
1,3-Propane sultone	1120-71-4	0.5	-	-
Acrylic acid	79-10-7	0.2	-	-
Titanium dioxide	13463-67-7	0.1	-	-
Oxirane, 2,2`-4-butylidenebisphen yleneoxymethylene (DGEBA)	25085-99-8	0.1	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

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

rupture of sealed battery. In case of rupture:

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel



Page 3/15

should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical

advice/attention.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present

and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. Get immediate medical advice/attention. May cause an allergic skin

reaction.

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. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Itching. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause

sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. 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 Attention! Corrosive material. 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. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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. Protect from

moisture. Store locked up. Keep out of the reach of children. Store away from other

materials.

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/m³ respirable particulate matter all forms except graphite fibers	TWA: 15 mg/m³ total dust synthetic TWA: 5 mg/m³ respirable fraction synthetic TWA: 15 mppcf respirable dust natural (vacated) TWA: 2.5 mg/m³ respirable dust natural (vacated) TWA: 10 mg/m³ total dust synthetic (vacated) TWA: 5 mg/m³ respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m³ TWA: 2.5 mg/m³ respirable dust
Copper	TWA: 0.2 mg/m³ fume	TWA: 0.1 mg/m³ fume	IDLH: 100 mg/m ³ dust, fume



7440-50-8 TWA: 1 mg/m³ dust and mist and mist (vacated) TWA: 0.1 mg/m3 Cu TWA: 1 mg/m³ dust and mist TWA: 0.1 mg/m³ fume dust, fume, mist Aluminum TWA: 1 mg/m³ respirable TWA: 15 mg/m³ total dust TWA: 10 mg/m³ total dust 7429-90-5 particulate matter TWA: 5 mg/m³ respirable TWA: 5 mg/m³ respirable dust fraction (vacated) TWA: 15 mg/m3 total dust (vacated) TWA: 5 mg/m³ respirable fraction Phosphate(1-), hexafluoro-, TWA: 2.5 mg/m3 F TWA: 2.5 mg/m³ F IDLH: 250 mg/m³ F lithium (vacated) TWA: 2.5 mg/m³ 21324-40-3 TWA: 1 fiber/cm3 respirable Glass fiber 65997-17-3 fibers: length >5 µm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination TWA: 5 mg/m³ inhalable particulate matter Nickel TWA: 1.5 mg/m³ TWA: 1 mg/m³ IDLH: 10 mg/m³ 7440-02-0 (vacated) TWA: 1 mg/m³ TWA: 0.015 mg/m³ TWA: 3 mg/m³ inhalable TWA: 3.5 mg/m³ IDLH: 1750 mg/m³ Carbon black 1333-86-4 particulate matter (vacated) TWA: 3.5 mg/m³ TWA: 3.5 mg/m³ TWA: 0.1 mg/m3 Carbon black in presence of Polycyclic aromatic hydrocarbons PAH Acrylic acid TWA: 2 ppm (vacated) TWA: 10 ppm TWA: 2 ppm 79-10-7 S* (vacated) TWA: 30 mg/m³ TWA: 6 mg/m³ (vacated) S* Titanium dioxide TWA: 10 mg/m³ TWA: 15 mg/m³ total dust IDLH: 5000 mg/m³ 13463-67-7 (vacated) TWA: 10 mg/m3 total dust Ontario TWAEV Chemical name Alberta British Columbia Quebec Lithium Cobalt Oxide TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ (CoLiO2) 12190-79-3 TWA: 2 mg/m³ TWA: 2 mg/m³ TWA: 2 mg/m³ TWA: 2 mg/m³ Graphite 7782-42-5 TWA: 0.2 mg/m³ TWA: 1 mg/m³ TWA: 0.2 mg/m³ TWA: 0.2 mg/m³ Copper 7440-50-8 TWA: 1 mg/m³ TWA: 0.2 mg/m³ TWA: 1 mg/m³ TWA: 1 mg/m³ Aluminum TWA: 10 mg/m³ TWA: 1.0 mg/m³ TWA: 1 mg/m³ TWA: 10 mg/m³ 7429-90-5 Phosphate(1-), TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ TWA: 2.5 mg/m³ hexafluoro-, lithium 21324-40-3 TWA: 5 mg/m³ TWA: 1 fibre/cm3 TWA: 1 fibre/cm3 TWA: 1 fibre/cm3 Glass fiber TWA: 1 fibre/cm3 65997-17-3 TWA: 5 mg/m³ TWA: 5 mg/m³ TWA: 5 mg/m³ TWA: 1.5 mg/m³ TWA: 0.05 mg/m³ TWA: 1 mg/m³ TWA: 1.5 mg/m³ Nickel 7440-02-0 TWA: 3.5 mg/m³ TWA: 3 mg/m³ TWA: 3 mg/m³ TWA: 3 mg/m³ Carbon black 1333-86-4 TWA: TWA: 1,3-Propane sultone TWA: 1120-71-4 Acrylic acid TWA: 2 ppm TWA: 2 ppm TWA: 2 ppm TWA: 2 ppm



79-10-7	TWA: 5.9 mg/m³ Skin	Skin	Skin	TWA: 5.9 mg/m³ Skin
Titanium dioxide 13463-67-7	TWA: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 3 mg/m ³	TWA: 10 mg/m ³	TWA: 10 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). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls Showers

> Evewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Face protection shield. Eye/face protection

Hand protection Wear suitable gloves. Impervious gloves.

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

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. Contaminated work clothing should not be allowed out of the workplace. 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

Information on basic physical and chemical properties

Solid Physical state **Appearance** Black Odorless Odor

No information available Color **Odor Threshold** No information available

Remarks Method **Property** Values

No data available рΗ 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

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/water1

Flammability Limit in Air



Page 7 / 15

Autoignition temperatureNo data availableNone knownDecomposition temperatureNo data availableNone knownKinematic viscosityNo data availableNone knownDynamic viscosityNo data availableNone 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 Exposure to air or moisture over prolonged periods.

Incompatible materials Acids. Bases. Oxidizing agent.

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. Corrosive by inhalation.

(based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs.

Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Corrosive to the eyes and may cause severe damage including blindness.

Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be

harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on



components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing. 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) 4,319.10 mg/kg **ATEmix (dermal)** 2,760.00 mg/kg

Unknown acute toxicity 54 % of the mixture consists of ingredient(s) of unknown toxicity

51 % of the mixture consists of ingredient(s) of unknown acute oral toxicity 54 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

54 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

54 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor) 54 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

r.	٥m	noi	nent	Info	rmat	lion

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium Cobalt Oxide (CoLiO2)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat) 4 h
Graphite	-	-	> 2000 mg/m³ (Rat) 4 h
Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³ (Rat) 8 h
Copper	-	-	> 5.11 mg/L (Rat) 4 h
Aluminum	-	-	> 0.888 mg/L (Rat) 4 h
Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h
Carbon black	> 10000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 4.6 mg/m³ (Rat) 4 h
Sodium carboxymethyl cellulose	= 27000 mg/kg (Rat)	-	> 5800 mg/m³ (Rat) 4 h
1,3-Propane sultone	= 157 mg/kg (Rat)	-	-
Acrylic acid	= 193 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 3.6 mg/L (Rat) 4 h
	-		= 11.1 mg/L (Rat) 1 h
Titanium dioxide	> 2000 mg/kg (Rat)	-	> 5.09 mg/L (Rat) 4 h

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. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

CarcinogenicityContains a known or suspected carcinogen. Classification based on data available for

ingredients. May cause cancer. This product contains titanium dioxide in a non-respirable form. Inhalation of titanium dioxide is unlikely to occur from exposure to this product.



Page 9/15

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
Glass fiber 65997-17-3	-	Group 3	-	-
Nickel 7440-02-0	-	Group 2B	Reasonably Anticipated	Х
Carbon black 1333-86-4	А3	Group 2B	-	X
1,3-Propane sultone 1120-71-4	А3	Group 2A	Reasonably Anticipated	Х
Acrylic acid 79-10-7	-	Group 3	-	-
Titanium dioxide 13463-67-7	А3	Group 2B	-	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in 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 exposureCauses 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	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Graphite	No data available	96h LC50: > 100 mg/L (Danio rerio)	No data available	No data available
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	No data available	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	No data available	No data available
Copper	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)



	96h EC50: 0.031 - 0.054	(Pimephales promelas)		
	mg/L	96h LC50: = 0.2 mg/L		
	(Pseudokirchneriella	(Pimephales promelas)		
	subcapitata)	96h LC50: = 0.052 mg/L		
	. ,	(Oncorhynchus mykiss)		
		96h LC50: = 1.25 mg/L		
		(Lepomis macrochirus)		
		96h LC50: = 0.3 mg/L		
		(Cyprinus carpio)		
		96h LC50: = 0.8 mg/L		
		(Cyprinus carpio)		
		96h LC50: = 0.112 mg/L		
		(Poecilia reticulata)		
Nickel	72h EC50: = 0.18 mg/L	96h LC50: > 100 mg/L	No data available	48h EC50: > 100 mg/L
	(Pseudokirchneriella	(Brachydanio rerio)		(Daphnia magna)
	` subcapitata)	96h LC50: = 1.3 mg/L		48h EC50: = 1 mg/L
	96h EC50: 0.174 - 0.311	(Cyprinus carpio)		(Daphnia magna)
	mg/L	96h LC50: = 10.4 mg/L		, ,
	(Pseudokirchneriella	(Cyprinus carpio)		
	subcapitata)			
Acrylic acid	96h EC50: = 0.17 mg/L	96h LC50: = 222 mg/L	No data available	48h EC50: = 95 mg/L
	(Pseudokirchneriella	(Brachydanio rerio)		(Daphnia magna)
	subcapitata)			
	72h EC50: = 0.04 mg/L			
	(Desmodesmus			

Persistence and Degradability

No information available.

subspicatus)

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Propylene carbonate	0.48
Ethylene carbonate	0.11
Acrylic acid	0.46

MobilityNo information available.Other adverse effectsNo 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 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)	Toxic
12190-79-3	
Aluminum	Ignitable powder
7429-90-5	
Nickel	Toxic powder
7440-02-0	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 147

Number

Not applicable

MEX Not applicable

ICAO Not applicable

<u>IATA</u>

TDG

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class 9

ERG Code 12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A EmS-No. F-A. S-I

Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to

IMDG/IMO

ADR Not applicable

Not applicable

Not applicable

Not applicable



15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA

DSL/NDSL

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	Weight-%	SARA 313 - Threshold Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	50	0.1
Copper - 7440-50-8	7440-50-8	10	1.0
Aluminum - 7429-90-5	7429-90-5	10	1.0
Nickel - 7440-02-0	7440-02-0	2	0.1
1,3-Propane sultone - 1120-71-4	1120-71-4	0.5	0.1
Acrylic acid - 79-10-7	79-10-7	0.2	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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		X	X	



7440-50-8			
Nickel	X	X	
7440-02-0			

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
1,3-Propane sultone 1120-71-4	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ
Acrylic acid 79-10-7	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65		
Carbon black - 1333-86-4	Carcinogen		
Nickel - 7440-02-0	carcinogen, 10/1/1989 (metallic)		
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988		
Titanium dioxide - 13463-67-7	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		Х	X	X
Graphite 7782-42-5	X	X	X		
Ethylene carbonate 96-49-1		Х	Х		
Copper 7440-50-8	Х	Х	Х	Х	Х
Aluminum 7429-90-5	Х	Х	Х	Х	
Phosphate(1-), hexafluoro-, lithium 21324-40-3	Х				
Nickel 7440-02-0	Х	Х	Х	Х	Х
Carbon black 1333-86-4	Х	Х	Х		Х
1,3-Propane sultone 1120-71-4	Х	Х	Х	Х	Х
Acrylic acid 79-10-7	Х	Х	Х	Х	Х
Titanium dioxide	Х	X	Х		



13463-67-7

16. OTHER INFORMATION

NFPA Health hazards 1 Flammability 0 Instability 0 Physical and Chemical

Properties -

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 26-Sep-2024

Revision Date 24-Sep-2024

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 30-Sep-2024

Revision Date 30-Sep-2024

or the substance described in this SDS. The layout, appearance and format of this SDS is @ 2014 UL LLC. All rights reserved.

Revision Number 2

NGHS / English

(III)

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1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24X3PK1 by CosMX

Other means of identification

Product Code(s) 1820025

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
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 Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Causes severe skin burns and eye damage
May cause an allergic skin reaction
May cause cancer
Causes demage to argue through prolonged or re

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

Immediately call a POISON CENTER or doctor

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 Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information



Page 2/15

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

Unknown acute toxicity

51 % of the mixture consists of ingredient(s) of unknown toxicity

- 48 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 51 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 51 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 51 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 51 % 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	Weight-%	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	50	-	-
Graphite	7782-42-5	30	-	-
Propylene carbonate	108-32-7	10	-	-
Ethylene carbonate	96-49-1	10	-	-
Copper	7440-50-8	10	-	-
Aluminum	7429-90-5	10	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	5	-	-
Glass, oxide	65997-17-3	3	-	-
Nickel	7440-02-0	2	-	-
Carbon black	1333-86-4	2	-	-
Sodium carboxymethyl cellulose	9004-32-4	1	-	-
1,3-Propane sultone	1120-71-4	0.5	-	-
Acrylic acid	79-10-7	0.2	-	-
Titanium dioxide	13463-67-7	0.1	-	-
Oxirane, 2,2`-4-butylidenebisphen yleneoxymethylene (DGEBA)	25085-99-8	0.1	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

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

rupture of sealed battery. In case of rupture:

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel



Page 3 / 15

should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical

advice/attention.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present

and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. Get immediate medical advice/attention. May cause an allergic skin

reaction.

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. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Burning sensation. Itching. Rashes. Hives. Symptoms

Indication of any immediate medical attention and special treatment needed

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Note to physicians

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. 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.

CAUTION: Use of water spray when fighting fire may be inefficient. Large Fire

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May

cause sensitization by skin contact.

Carbon oxides. **Hazardous Combustion Products**

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 Attention! Corrosive material. 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. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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. Protect from

moisture. Store locked up. Keep out of the reach of children. Store away from other

materials.

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/m³ respirable particulate matter all forms except graphite fibers	TWA: 15 mg/m³ total dust synthetic TWA: 5 mg/m³ respirable fraction synthetic TWA: 15 mppcf respirable dust natural (vacated) TWA: 2.5 mg/m³ respirable dust natural (vacated) TWA: 10 mg/m³ total dust synthetic (vacated) TWA: 5 mg/m³ respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m³ TWA: 2.5 mg/m³ respirable dust
Copper	TWA: 0.2 mg/m³ fume	TWA: 0.1 mg/m³ fume	IDLH: 100 mg/m ³ dust, fume



7440-50-8				Τ\Λ/Λ· 1 mg	/m³ dust and mist		and mist
7440-50-6					WA: 0.1 mg/m ³ Cu	TWA-	: 1 mg/m ³ dust and mist
					, fume, mist		VA: 0.1 mg/m ³ fume
Aluminum		TWA: 1 mg/m ³		TWA: 15 mg/m³ total dust			A: 10 mg/m ³ total dust
7429-90-5		particulate r	natter		ng/m³ respirable	TWA:	5 mg/m³ respirable dust
					fraction VA: 15 mg/m³ total		
				(vacated) i v	dust		
) TWA: 5 mg/m ³		
					rable fraction		
Phosphate(1-), hexafluo	ro-,	TWA: 2.5 mg	g/m³ F		2.5 mg/m³ F TWA: 2.5 mg/m³		IDLH: 250 mg/m ³ F
21324-40-3				(vacaleu)	TVVA. 2.5 mg/m²		
Glass, oxide		TWA: 1 fiber/cm3	respirable		-		
65997-17-3		fibers: length >5					
		ratio >=3:1, as de the membrane filte					
		400-450X magnific					
		objective], using ph					
		illuminati					
		TWA: 5 mg/m ³ fractior					
Nickel		TWA: 1.5 m		TW	A: 1 mg/m ³		IDLH: 10 mg/m ³
7440-02-0			-3	(vacated) TWA: 1 mg/m ³		TWA: 0.015 mg/m ³	
Carbon black		TWA: 3 mg/m ³		TWA: 3.5 mg/m ³		IDLH: 1750 mg/m ³	
1333-86-4		particulate r	natter	(vacated)	TWA: 3.5 mg/m ³	Τ\Λ/Λ	TWA: 3.5 mg/m³ : 0.1 mg/m³ Carbon black
							presence of Polycyclic
							natic hydrocarbons PAH
Acrylic acid		TWA: 2 p	pm		d) TWA: 10 ppm		TWA: 2 ppm
79-10-7		S*		(vacated) TWA: 30 mg/m ³ (vacated) S*			TWA: 6 mg/m ³
Titanium dioxide		TWA: 10 m	ng/m ³		mg/m³ total dust		IDLH: 5000 mg/m ³
13463-67-7			9	(vacated) TWA: 10 mg/m³ total			
					dust		
Chemical name Lithium Cobalt Oxide	T\.	Alberta		Columbia	Ontario TWAE		Quebec
(CoLiO2)	IV	VA: 0.02 mg/m ³	1 VVA. U.	02 mg/m ³	TWA: 0.02 mg/	II.	TWA: 0.02 mg/m ³
12190-79-3							
Graphite	7	ΓWA: 2 mg/m ³	TWA: 2	2 mg/m³	TWA: 2 mg/m	3	TWA: 2 mg/m ³
7782-42-5		14/4 - 0 0/2	T\\\\\ 4	/ 2	T\A/A - O O/-	- 2	TIMA: 0.0 ::- ::/::-2
Copper 7440-50-8		WA: 0.2 mg/m ³ FWA: 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		WA: 10 mg/m ³	TWA: 0.2 mg/m ³		TWA: 1 mg/m³		TWA: 10 mg/m ³
7429-90-5							,
Phosphate(1-),	T	WA: 2.5 mg/m ³	TWA: 2.	5 mg/m ³	TWA: 2.5 mg/n	N ³	TWA: 2.5 mg/m ³
hexafluoro-, lithium 21324-40-3							
Glass, oxide	7	ΓWA: 5 mg/m ³	TWA: 11	fibre/cm3	TWA: 1 fibre/cr	n3	TWA: 1 fibre/cm3
65997-17-3	TWA: 1 fibre/cm3		TWA: 5 mg/m ³		TWA: 5 mg/m ³		TWA: 5 mg/m ³
Nickel	T	WA: 1.5 mg/m ³	TWA: 0.0	05 mg/m ³	TWA: 1 mg/m	3	TWA: 1.5 mg/m ³
7440-02-0 Carbon black	т	WA: 3.5 mg/m ³	T\\/\\ ?	3 mg/m ³	TWA: 3 mg/m	3	TWA: 3 mg/m ³
1333-86-4	'	vv/ (. 0.0 mg/m²	1 1 1 1 1 1 1 1 1	, mg/m²	I VVA. 3 mg/m		1 vvA. 3 mg/m²
1,3-Propane sultone			TV	VA:	TWA:		TWA:
1120-71-4							
Acrylic acid		TWA: 2 ppm	TWA:	2 ppm TWA: 2 ppm			TWA: 2 ppm



79-10-7	TWA: 5.9 mg/m³ Skin	Skin	Skin	TWA: 5.9 mg/m³ Skin
Titanium dioxide 13463-67-7	TWA: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 3 mg/m ³	TWA: 10 mg/m ³	TWA: 10 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). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls Showers

> Evewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Face protection shield. Eye/face protection

Hand protection Wear suitable gloves. Impervious gloves.

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

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. Contaminated work clothing should not be allowed out of the workplace. 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

Information on basic physical and chemical properties

Solid Physical state **Appearance** Black Odorless Odor

No information available Color **Odor Threshold** No information available

Remarks Method **Property** Values

No data available рΗ 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

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/water1



Page 7 / 15

Autoignition temperature

No data available

None known

No data available

None known

No data available

None known

Kinematic viscosity

No data available

None known

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 Exposure to air or moisture over prolonged periods.

Incompatible materials Acids. Bases. Oxidizing agent.

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. Corrosive by inhalation.

(based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs.

Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Corrosive to the eyes and may cause severe damage including blindness.

Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be

harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on



components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing. 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) 4,583.60 mg/kg **ATEmix (dermal)** 2,940.00 mg/kg

Unknown acute toxicity 51 % of the mixture consists of ingredient(s) of unknown toxicity

48 % of the mixture consists of ingredient(s) of unknown acute oral toxicity 51 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

51 % of the mixture consists of ingredient(s) of unknown acute dermai toxicity

51 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas) 51 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

51 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium Cobalt Oxide (CoLiO2)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat) 4 h
Graphite	-	-	> 2000 mg/m³ (Rat) 4 h
Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³ (Rat) 8 h
Copper	-	-	> 5.11 mg/L (Rat) 4 h
Aluminum	•	-	> 0.888 mg/L (Rat) 4 h
Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h
Carbon black	> 10000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 4.6 mg/m³ (Rat) 4 h
Sodium carboxymethyl cellulose	= 27000 mg/kg (Rat)	-	> 5800 mg/m³ (Rat) 4 h
1,3-Propane sultone	= 157 mg/kg (Rat)	-	-
Acrylic acid	= 193 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 3.6 mg/L (Rat) 4 h
	-	_	= 11.1 mg/L (Rat) 1 h
Titanium dioxide	> 2000 mg/kg (Rat)	-	> 5.09 mg/L (Rat) 4 h

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. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

CarcinogenicityContains a known or suspected carcinogen. Classification based on data available for

ingredients. May cause cancer. This product contains titanium dioxide in a non-respirable form. Inhalation of titanium dioxide is unlikely to occur from exposure to this product.



Page 9/15

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
Glass, oxide 65997-17-3	-	Group 3	-	-
Nickel 7440-02-0	-	Group 2B	Reasonably Anticipated	X
Carbon black 1333-86-4	A3	Group 2B	-	X
1,3-Propane sultone 1120-71-4	A3	Group 2A	Reasonably Anticipated	Х
Acrylic acid 79-10-7	-	Group 3	-	-
Titanium dioxide 13463-67-7	A3	Group 2B	-	Х

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in 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 exposureCauses 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	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Graphite	No data available	96h LC50: > 100 mg/L (Danio rerio)	No data available	No data available
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	No data available	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	No data available	No data available
Copper	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)



	96h EC50: 0.031 - 0.054	(Pimephales promelas)		
	mg/L	96h LC50: = 0.2 mg/L		
	(Pseudokirchneriella	(Pimephales promelas)		
	subcapitata)	96h LC50: = 0.052 mg/L		
		(Oncorhynchus mykiss)		
		96h LC50: = 1.25 mg/L		
		(Lepomis macrochirus)		
		96h LC50: = 0.3 mg/L		
		(Cyprinus carpio)		
		96h LC50: = 0.8 mg/L		
		(Cyprinus carpio)		
		96h LC50: = 0.112 mg/L		
		(Poecilia reticulata)		
Nickel	72h EC50: = 0.18 mg/L	96h LC50: > 100 mg/L	No data available	48h EC50: > 100 mg/L
	(Pseudokirchneriella	(Brachydanio rerio)		(Daphnia magna)
	` subcapitata)	96h LC50: = 1.3 mg/L		48h EC50: = 1 mg/L
	96h EC50: 0.174 - 0.311	(Cyprinus carpio)		(Daphnia magna)
	mg/L	96h LC50: = 10.4 mg/L		, ,
	(Pseudokirchneriella	(Cyprinus carpio)		
	subcapitata)	. ,		
Acrylic acid	96h EC50: = 0.17 mg/L	96h LC50: = 222 mg/L	No data available	48h EC50: = 95 mg/L
_	(Pseudokirchneriella	(Brachydanio rerio)		(Daphnia magna)
	` subcapitata)	,		
	72h EC50: = 0.04 mg/L			
	(Desmodesmus			
	subspicatus)			

Persistence and Degradability

No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient				
Propylene carbonate	0.48				
Ethylene carbonate	0.11				
Acrylic acid	0.46				

MobilityNo information available.Other adverse effectsNo 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 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)	Toxic
12190-79-3	
Aluminum	Ignitable powder
7429-90-5	·
Nickel	Toxic powder
7440-02-0	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 147

Number

TDG Not applicable

MEX Not applicable

ICAO Not applicable

<u>IATA</u>

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class 9

ERG Code 12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A F-A, S-I

Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to

IMDG/IMO

<u>RID</u> Not applicable

ADR Not applicable

Tunnel restriction code (E)

ADN Not applicable



15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention 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.

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	Weight-%	SARA 313 - Threshold Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	50	0.1
Copper - 7440-50-8	7440-50-8	10	1.0
Aluminum - 7429-90-5	7429-90-5	10	1.0
Nickel - 7440-02-0	7440-02-0	2	0.1
1,3-Propane sultone - 1120-71-4	1120-71-4	0.5	0.1
Acrylic acid - 79-10-7	79-10-7	0.2	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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		X	X	



7440-50-8			
Nickel	X	X	
7440-02-0			

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
1,3-Propane sultone 1120-71-4	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ
Acrylic acid 79-10-7	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65	
Carbon black - 1333-86-4	Carcinogen	
Nickel - 7440-02-0	carcinogen, 10/1/1989 (metallic)	
1,3-Propane sultone - 1120-71-4	carcinogen, 1/1/1988	
Titanium dioxide - 13463-67-7	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	Х
Graphite 7782-42-5	Х	X	X		
Ethylene carbonate 96-49-1		X	Х		
Copper 7440-50-8	Х	X	Х	Х	Х
Aluminum 7429-90-5	Х	Х	Х	Х	
Phosphate(1-), hexafluoro-, lithium 21324-40-3	Х				
Nickel 7440-02-0	Х	Х	Х	Х	Х
Carbon black 1333-86-4	Х	X	Х		Х
1,3-Propane sultone 1120-71-4	Х	Х	Х	Х	Х
Acrylic acid 79-10-7	Х	Х	Х	Х	Х
Titanium dioxide	Х	Х	Х		



13463-67-7

16. OTHER INFORMATION

NFPA Health hazards 1 Flammability 0 Instability 0 Physical and Chemical

Properties -

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 30-Sep-2024

Revision Date 30-Sep-2024

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 24-Oct-2024 Revision Date 23-Oct-2024 Revision Number 1

NGHS / English



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1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24B4PK1 by BYD

Other means of identification

Product Code(s) 1822942

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
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 Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Causes severe skin burns and eye damage
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

Immediately call a POISON CENTER or doctor

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 Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information



Page 2/14

May be harmful in contact with skin. Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity

34 % of the mixture consists of ingredient(s) of unknown toxicity

27 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

34 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

34 % 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	Weight-%	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	45	-	-
Graphite	7782-42-5	25	-	-
Propylene carbonate	108-32-7	10	-	-
Propyl propionate	106-36-5	10	-	-
Ethylene carbonate	96-49-1	10	-	-
Ci 77400	7440-50-8	10	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	5	-	-
Nickel	7440-02-0	5	-	-
Ci 77000	7429-90-5	5	-	-
Ci 77266	1333-86-4	2	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

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

rupture of sealed battery. In case of rupture:

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.

Eye contact

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

Skin contact

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



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. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Itching. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause

sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing mediaDo not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. 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 Attention! Corrosive material. 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. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH	
Lithium Cobalt Oxide (CoLiO2)	TWA: 0.02 mg/m ³	-		
12190-79-3				
Graphite	TWA: 2 mg/m³ respirable	TWA: 15 mg/m³ total dust	IDLH: 1250 mg/m ³	
7782-42-5	particulate matter all forms	synthetic	TWA: 2.5 mg/m³ respirable	
	except graphite fibers	TWA: 5 mg/m³ respirable	dust	
		fraction synthetic		
		TWA: 15 mppcf respirable dust		
		natural		
		(vacated) TWA: 2.5 mg/m ³		
		respirable dust natural		
		(vacated) TWA: 10 mg/m³ total		
		dust synthetic		
		(vacated) TWA: 5 mg/m ³		
		respirable fraction synthetic		
		TWA: 15 mppcf natural		
Ci 77400	TWA: 0.2 mg/m ³ fume	TWA: 0.1 mg/m³ fume	IDLH: 100 mg/m ³ dust, fume	
7440-50-8		TWA: 1 mg/m³ dust and mist	and mist	
		(vacated) TWA: 0.1 mg/m³ Cu	TWA: 1 mg/m ³ dust and mist	
		dust, fume, mist	TWA: 0.1 mg/m ³ fume	
Phosphate(1-), hexafluoro-,	TWA: 2.5 mg/m ³ F	TWA: 2.5 mg/m ³ F	IDLH: 250 mg/m ³ F	
lithium		(vacated) TWA: 2.5 mg/m ³		
21324-40-3				
Nickel	TWA: 1.5 mg/m ³	TWA: 1 mg/m ³	IDLH: 10 mg/m ³	
7440-02-0		(vacated) TWA: 1 mg/m ³	TWA: 0.015 mg/m ³	
Ci 77000	TWA: 1 mg/m ³ respirable	TWA: 15 mg/m³ total dust	TWA: 10 mg/m³ total dust	



		Υ						
7429-90-5		fraction		TWA: 5 mg/m³ respirable fraction		TWA:	5 mg/m ³	respirable dust
					VA: 15 mg/m³ total			
				(vacatoa) i v	dust			
			(vacated) TWA: 5 mg/m ³					
					able fraction			
Ci 77266		TWA: 3 mg/m³ inhalable		TWA: 3.5 mg/m ³		IDLH: 1750 mg/m ³		
1333-86-4					cated) TWA: 3.5 mg/m ³		TWA: 3.5 mg/m ³	
				(vacated) : vvi ii ete iiig,iii		TWA: 0.1 mg/m³ Carbon black		
								of Polycyclic
								rocarbons PAH
Chemical name		Alberta	British C	Columbia	Ontario TWAEV			Quebec
Lithium Cobalt Oxide	T۱	WA: 0.02 mg/m ³ TWA: 0.		02 mg/m ³ TWA: 0.02 mg/n		m³	TWA	: 0.02 mg/m ³
(CoLiO2)								-
12190-79-3								
Graphite	_	ΓWA: 2 mg/m ³	TWA: 2 mg/m ³		TWA: 2 mg/m ³		TW	/A: 2 mg/m ³
7782-42-5								
Ci 77400		WA: 0.2 mg/m ³	TWA: 1 mg/m ³		TWA: 0.2 mg/m ³			4: 0.2 mg/m ³
7440-50-8	-	ΓWA: 1 mg/m³	TWA: 0.2 mg/m ³		TWA: 1 mg/m ³		TW	/A: 1 mg/m ³
Phosphate(1-),	Т	WA: 2.5 mg/m ³	TWA: 2.	5 mg/m ³	TWA: 2.5 mg/r	n³	TWA	4: 2.5 mg/m ³
hexafluoro-, lithium								
21324-40-3								
Nickel	Т	WA: 1.5 mg/m ³	TWA: 0.05 mg/m ³		TWA: 1 mg/m ³		TWA	A: 1.5 mg/m ³
7440-02-0								
Ci 77000	Т	WA: 10 mg/m ³	TWA: 1.	0 mg/m ³	TWA: 1 mg/m ³		TW	A: 10 mg/m ³
7429-90-5								
Ci 77266	Т	TWA: 3.5 mg/m ³ TWA:		3 mg/m³	TWA: 3 mg/m	3	TW	/A: 3 mg/m ³
1333-86-4								

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

(11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls Showers

> Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield.

Wear suitable gloves. Impervious gloves. Hand protection

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

No protective equipment is needed under normal use conditions. If exposure limits are Respiratory protection

exceeded or irritation is experienced, ventilation and evacuation may be required.

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with **General hygiene considerations**

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. Contaminated work clothing should not be allowed out of the workplace. 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



Information on basic physical and chemical properties

Physical state Solid
Appearance Black
Odor Odorless

ColorNo information availableOdor ThresholdNo information available

<u>Property</u> <u>Values</u> <u>Remarks Method</u>

No data available рH None known None known Melting / freezing point No data available Boiling point / boiling range No data available None known Flash Point No data available None known **Evaporation Rate** No data available None known No data available Flammability (solid, gas) None known

Flammability Limit in Air

Upper flammability limit
Lower flammability limit
No data available
No data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone known

Water Solubility Insoluble in water

Solubility(ies) No data available None known

Partition coefficient: n-octanol/water1

Autoignition temperatureNo data availableNone knownDecomposition temperatureNo data availableNone knownKinematic viscosityNo data availableNone knownDynamic viscosityNo data availableNone known

Other Information

Explosive properties No information available Oxidizing properties No information available **Softening Point** No information available **Molecular Weight** No information available No information available **VOC Content (%)** No information available **Liquid Density 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 Exposure to air or moisture over prolonged periods.

Incompatible materials Acids. Bases. Oxidizing agent.

Hazardous Decomposition Products Carbon oxides.



Page 7/14

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. Corrosive by inhalation.

(based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs.

Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Corrosive to the eyes and may cause severe damage including blindness.

Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be

harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing. 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) 5,424.30 mg/kg
ATEmix (dermal) 3,816.50 mg/kg
ATEmix (inhalation-gas) 29,700.00 ppm
ATEmix (inhalation-dust/mist) 9.90 mg/L
ATEmix (inhalation-vapor) 72.60 mg/L

Unknown acute toxicity 34 % of the mixture consists of ingredient(s) of unknown toxicity

27 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

34 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Component Information

C	hemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium (Cobalt Oxide (CoLiO2)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat) 4 h
	Graphite	-	-	> 2000 mg/m³ (Rat) 4 h



= 29000 mg/kg (Rat) > 3000 mg/kg (Rabbit) Propylene carbonate Propyl propionate = 10331 mg/kg (Rat) = 16 mL/kg (Rabbit) Ethylene carbonate = 10 g/kg (Rat)> 26420 mg/kg (Rabbit) > 730 mg/m³ (Rat) 8 h Ci 77400 > 5.11 mg/L (Rat) 4 hNickel > 9000 mg/kg (Rat) -> 10.2 mg/L (Rat) 1 hCi 77000 > 0.888 mg/L (Rat) 4 h Ci 77266 > 10000 mg/kg (Rat) > 2000 mg/kg (Rabbit) $> 4.6 \text{ mg/m}^3 \text{ (Rat) 4 h}$

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. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

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

ingredients. May cause cancer.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide	A3	Group 2B	Reasonably Anticipated	X
(CoLiO2)			·	
12190-79-3				
Nickel	-	Group 2B	Reasonably Anticipated	X
7440-02-0			·	
Ci 77266	A3	Group 2B	-	X
1333-86-4				

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 exposureCauses 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	Algae/aquatic plants	Fish	Toxicity to	Crustacea



48h EC50: > 100 mg/L

(Daphnia magna)

48h EC50: = 1 mg/L

(Daphnia magna)

microorganisms

No data available

96h LC50: > 100 mg/L No data available Graphite No data available No data available (Danio rerio) 72h EC50: > 500 mg/L 96h LC50: > 1000 mg/L EC50 > 10000 mg/L 17 h 48h EC50: > 500 mg/L Propylene carbonate (Desmodesmus (Cyprinus carpio) (Daphnia magna) subspicatus) 96h LC50: > 100 mg/L No data available Ethylene carbonate No data available No data available (Oncorhynchus mykiss) Ci 77400 72h EC50: 0.0426 -96h LC50: 0.0068 -No data available 48h EC50: = 0.03 mg/L 0.0156 mg/L (Pimephales 0.0535 mg/L (Daphnia magna) (Pseudokirchneriella promelas) 96h LC50: < 0.3 mg/L subcapitata) (Pimephales promelas) 96h EC50: 0.031 - 0.054 mg/L 96h LC50: = 0.2 mg/L(Pseudokirchneriella (Pimephales promelas) subcapitata) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.3 mg/L(Cyprinus carpio) 96h LC50: = 0.8 mg/L

> (Cyprinus carpio) 96h LC50: = 0.112 mg/L (Poecilia reticulata)

96h LC50: > 100 mg/L

(Brachydanio rerio)

96h LC50: = 1.3 mg/L

(Cyprinus carpio)

96h LC50: = 10.4 mg/L

(Cyprinus carpio)

Persistence and Degradability

Nickel

No information available.

72h EC50: = 0.18 mg/L

(Pseudokirchneriella

subcapitata) 96h EC50: 0.174 - 0.311

mg/L

(Pseudokirchneriella

subcapitata)

Bioaccumulation

Component Information

Chemical name	Partition coefficient			
Propylene carbonate	0.48			
Ethylene carbonate	0.11			

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.



141

California Waste Codes

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)	Toxic
12190-79-3	
Nickel	Toxic powder
7440-02-0	Ignitable powder
Ci 77000	Ignitable powder
7429-90-5	

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 147

Number

TDG Not applicable

ICAO Not applicable

IATA

MEX

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class 9

ERG Code 12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

Not applicable

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A EmS-No. F-A, S-I

Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to

IMDG/IMO

RID Not applicable



ADR Not applicable

Not applicable

15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA

DSL/NDSL

Contact supplier for inventory compliance status.

KECL

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	Weight-%	SARA 313 - Threshold
			Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	45	0.1
Ci 77400 - 7440-50-8	7440-50-8	10	1.0
Nickel - 7440-02-0	7440-02-0	5	0.1
Ci 77000 - 7429-90-5	7429-90-5	5	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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	CWA - Toxic Pollutants	CWA - Priority	CWA - Hazardous



 Quantities
 Pollutants
 Substances

 Ci 77400 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
Ci 77400 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, 10/1/1989 (metallic)
Ci 77266 - 1333-86-4	carcinogen, 2/21/2003 (airborne, unbound particles of respirable
	size)

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	Х		X	X	X
Graphite 7782-42-5	X	X	X		
Propyl propionate 106-36-5		X	Х		
Ethylene carbonate 96-49-1		Х	Х		
Ci 77400 7440-50-8	Х	Х	Х	Х	Х
Phosphate(1-), hexafluoro-, lithium 21324-40-3	Х				
Nickel 7440-02-0	Х	Х	Х	Х	Х
Ci 77000 7429-90-5	Х	Х	Х	Х	
Ci 77266 1333-86-4	Х	Х	Х		Х

16. OTHER INFORMATION	

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



Revision Date 23-Oct-2024

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 24-Oct-2024

Revision Date 23-Oct-2024

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 26-Sep-2024

Revision Date 24-Sep-2024

Revision Number 1

NGHS / English



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1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24B3PK2 by BYD

Other means of identification

Product Code(s) 1820021

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
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 Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Causes severe skin burns and eye damage
May cause an allergic skin reaction
May cause cancer
Causes damage to expens through prolonged or repo

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

Immediately call a POISON CENTER or doctor

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 Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information



Page 2/14

May be harmful in contact with skin. Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity

34 % of the mixture consists of ingredient(s) of unknown toxicity

27 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

34 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

34 % 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	Weight-%	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	45	-	-
Graphite	7782-42-5	25	-	-
Propylene carbonate	108-32-7	10	-	-
Propyl propionate	106-36-5	10	-	-
Ethylene carbonate	96-49-1	10	-	-
Copper	7440-50-8	10	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	5	-	-
Nickel	7440-02-0	5	-	-
Aluminum	7429-90-5	5	-	-
Ci 77266	1333-86-4	2	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

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

rupture of sealed battery. In case of rupture:

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical

advice/attention.

Eye contact

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

Skin contact

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

reaction.



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. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Itching. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause

sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing mediaDo not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. 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 Attention! Corrosive material. 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



Page 4/14

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. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lithium Cobalt Oxide (CoLiO2)	TWA: 0.02 mg/m ³	-	
12190-79-3			
Graphite	TWA: 2 mg/m³ respirable	TWA: 15 mg/m³ total dust	IDLH: 1250 mg/m ³
7782-42-5	particulate matter all forms	synthetic	TWA: 2.5 mg/m³ respirable
	except graphite fibers	TWA: 5 mg/m³ respirable	dust
		fraction synthetic	
		TWA: 15 mppcf respirable dust	
		natural	
		(vacated) TWA: 2.5 mg/m ³	
		respirable dust natural	
		(vacated) TWA: 10 mg/m³ total	
		dust synthetic	
		(vacated) TWA: 5 mg/m ³	
		respirable fraction synthetic	
		TWA: 15 mppcf natural	
Copper	TWA: 0.2 mg/m³ fume	TWA: 0.1 mg/m³ fume	IDLH: 100 mg/m ³ dust, fume
7440-50-8		TWA: 1 mg/m ³ dust and mist	and mist
		(vacated) TWA: 0.1 mg/m³ Cu	TWA: 1 mg/m³ dust and mist
		dust, fume, mist	TWA: 0.1 mg/m ³ fume
Phosphate(1-), hexafluoro-,	TWA: 2.5 mg/m³ F	TWA: 2.5 mg/m ³ F	IDLH: 250 mg/m ³ F
lithium		(vacated) TWA: 2.5 mg/m ³	
21324-40-3			
Nickel	TWA: 1.5 mg/m³	TWA: 1 mg/m ³	IDLH: 10 mg/m ³
7440-02-0		(vacated) TWA: 1 mg/m ³	TWA: 0.015 mg/m ³
Aluminum	TWA: 1 mg/m³ respirable	TWA: 15 mg/m³ total dust	TWA: 10 mg/m ³ total dust



7429-90-5		particulate n	natter		ng/m³ respirable	TWA:	5 mg/m ³	respirable dust
					fraction			
				(vacated) TV	VA: 15 mg/m³ total			
					dust			
) TWA: 5 mg/m³			
				respir	able fraction			
Ci 77266		TWA: 3 mg/m ³	inhalable		: 3.5 mg/m ³		IDLH: 17	750 mg/m³
1333-86-4		particulate n	natter	(vacated)	TWA: 3.5 mg/m ³			5.5 mg/m ³
						TWA:	: 0.1 mg/r	m ³ Carbon black
						in	presence	of Polycyclic
						aron	natic hydi	rocarbons PAH
Chemical name		Alberta	British C	Columbia	Ontario TWAE	V		Quebec
Lithium Cobalt Oxide	T۷	VA: 0.02 mg/m ³	TWA: 0.0	02 mg/m ³	TWA: 0.02 mg/	m³	TWA	: 0.02 mg/m ³
(CoLiO2)								
12190-79-3								
Graphite	1	ΓWA: 2 mg/m ³	TWA: 2	2 mg/m³	TWA: 2 mg/m	3	TW	/A: 2 mg/m ³
7782-42-5								
Copper	T	WA: 0.2 mg/m ³	TWA: 1	mg/m³	TWA: 0.2 mg/r	n³	TWA	A: 0.2 mg/m ³
7440-50-8	1	ΓWA: 1 mg/m ³	TWA: 0.	2 mg/m ³	TWA: 1 mg/m	3	TW	/A: 1 mg/m ³
Phosphate(1-),	T'	WA: 2.5 mg/m ³	TWA: 2.	5 mg/m ³	TWA: 2.5 mg/r	n³	TWA	A: 2.5 mg/m ³
hexafluoro-, lithium		-		_				-
21324-40-3								
Nickel	T	WA: 1.5 mg/m ³	TWA: 0.0	05 mg/m ³	TWA: 1 mg/m	3	TWA	A: 1.5 mg/m ³
7440-02-0		· ·		-				•
Aluminum	Т	WA: 10 mg/m ³	TWA: 1.	0 mg/m ³	TWA: 1 mg/m	3	TW	A: 10 mg/m ³
7429-90-5		Ŭ		Ü				Ü
Ci 77266	Т	WA: 3.5 mg/m ³	TWA: 3	3 mg/m ³	TWA: 3 mg/m	3	TW	/A: 3 mg/m ³
1333-86-4		· ·		-				-

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

(11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls Showers

> Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield.

Wear suitable gloves. Impervious gloves. Hand protection

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

No protective equipment is needed under normal use conditions. If exposure limits are Respiratory protection

exceeded or irritation is experienced, ventilation and evacuation may be required.

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do General hygiene considerations

not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES



E Li-ion Battery L24B3PK2 by Revision Date 24-Sep-2024

Information on basic physical and chemical properties

Physical stateSolidAppearanceBlackOdorOdorless

ColorNo information availableOdor ThresholdNo information available

<u>Property</u> <u>Values</u> <u>Remarks Method</u>

No data available рH None known None known Melting / freezing point No data available 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

Upper flammability limitNo data availableLower flammability limitNo data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone known

Water Solubility Insoluble in water

Solubility(ies) No data available None known

Partition coefficient: n-octanol/water1

Autoignition temperatureNo data availableNone knownDecomposition temperatureNo data availableNone knownKinematic viscosityNo data availableNone knownDynamic viscosityNo data availableNone known

Other Information

Explosive properties No information available Oxidizing properties No information available **Softening Point** No information available **Molecular Weight** No information available No information available **VOC Content (%)** No information available **Liquid Density 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 Exposure to air or moisture over prolonged periods.

Incompatible materials Acids. Bases. Oxidizing agent.

Hazardous Decomposition Products Carbon oxides.



Page 7/14

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. Corrosive by inhalation.

(based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs.

Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Corrosive to the eyes and may cause severe damage including blindness.

Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be

harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing. 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) 5,424.30 mg/kg
ATEmix (dermal) 3,816.50 mg/kg
ATEmix (inhalation-gas) 29,700.00 ppm
ATEmix (inhalation-dust/mist) 9.90 mg/L
ATEmix (inhalation-vapor) 72.60 mg/L

Unknown acute toxicity 34 % of the mixture consists of ingredient(s) of unknown toxicity

27 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

34 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium Cobalt Oxide (CoLiO2)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat) 4 h
Graphite	-	-	> 2000 mg/m³ (Rat) 4 h



Propylene carbonate	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Propyl propionate	= 10331 mg/kg (Rat)	= 16 mL/kg(Rabbit)	-
Ethylene carbonate	= 10 g/kg (Rat)	> 26420 mg/kg (Rabbit)	> 730 mg/m³ (Rat) 8 h
Copper	-	-	> 5.11 mg/L (Rat) 4 h
Nickel	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h
Aluminum	-	-	> 0.888 mg/L (Rat) 4 h
Ci 77266	> 10000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 4.6 mg/m³ (Rat) 4 h

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. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

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

ingredients. May cause cancer.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide	A3	Group 2B	Reasonably Anticipated	X
(CoLiO2)			·	
12190-79-3				
Nickel	-	Group 2B	Reasonably Anticipated	X
7440-02-0			·	
Ci 77266	A3	Group 2B	-	X
1333-86-4				

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 exposureCauses 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	Algae/aquatic plants	Fish	Toxicity to	Crustacea



			microorganisms	
Graphite	No data available	96h LC50: > 100 mg/L (Danio rerio)	No data available	No data available
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	No data available	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	No data available	No data available
Copper	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 0.112 mg/L (Poecilia reticulata)	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)
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)	No data available	48h EC50: > 100 mg/L (Daphnia magna) 48h EC50: = 1 mg/L (Daphnia magna)

Persistence and Degradability

No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Propylene carbonate	0.48
Ethylene carbonate	0.11

MobilityNo information available.Other adverse effectsNo 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 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)	Toxic
12190-79-3	
Nickel	Toxic powder
7440-02-0	Ignitable powder
Aluminum	Ignitable powder
7429-90-5	

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 **Proper Shipping Name** NOT REGULATED NON-REGULATED

N/A

Not applicable

Hazard Class Emergency Response Guide

147

Number

MEX Not applicable

ICAO Not applicable

IATA

TDG

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class

ERG Code 12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A F-A, S-I EmS-No.

This product contains a chemical which is listed as a marine pollutant according to **Marine Pollutant**

IMDG/IMO

<u>RID</u> Not applicable



ADR Not applicable

Not applicable

15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention 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.

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	Weight-%	SARA 313 - Threshold
			Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	45	0.1
Copper - 7440-50-8	7440-50-8	10	1.0
Nickel - 7440-02-0	7440-02-0	5	0.1
Aluminum - 7429-90-5	7429-90-5	5	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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	CWA - Toxic Pollutants	CWA - Priority	CWA - Hazardous



	Quantities		Pollutants	Substances
Copper		X	X	
7440-50-8				
Nickel		X	X	
7440-02-0				

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, 10/1/1989 (metallic)
Ci 77266 - 1333-86-4	carcinogen, 2/21/2003 (airborne, unbound particles of respirable
	size)

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	Х		X	X	X
Graphite 7782-42-5	X	X	X		
Propyl propionate 106-36-5		Х	X		
Ethylene carbonate 96-49-1		X	X		
Copper 7440-50-8	X	Х	X	X	X
Phosphate(1-), hexafluoro-, lithium 21324-40-3	Х				
Nickel 7440-02-0	Х	Х	Х	Х	Х
Aluminum 7429-90-5	Х	Х	Х	Х	
Ci 77266 1333-86-4	Х	Х	Х		Х

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 26-Sep-2024

Revision Date 24-Sep-2024

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 26-Sep-2024

Revision Date 24-Sep-2024

Revision Number 1

NGHS / English

(II)

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1. IDENTIFICATION

Product identifier

Product Name Rechargeable Li-ion Battery L24B3PK3 by BYD

Other means of identification

Product Code(s) 1820023

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Ion Battery

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Lenovo LNB laptops

Address Songtao Road 696

shanghai shanghai 201203 CN

Telephone Phone:18116118603

E-mail yuanbb1@lenovo.com

Emergency telephone number

Company Emergency Phone

Number

18116118603

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
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 Black Physical state Solid Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Causes severe skin burns and eye damage
May cause an allergic skin reaction
May cause cancer
Causes damage to expens through prolonged or re-

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

Immediately call a POISON CENTER or doctor

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 Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information



Page 2/14

May be harmful in contact with skin. Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity

34 % of the mixture consists of ingredient(s) of unknown toxicity

27 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

34 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

34 % 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	Weight-%	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	45	-	-
Graphite	7782-42-5	25	-	-
Propylene carbonate	108-32-7	10	-	-
Propyl propionate	106-36-5	10	-	-
Ethylene carbonate	96-49-1	10	-	-
Copper	7440-50-8	10	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	5	-	-
Nickel	7440-02-0	5	-	-
Aluminum	7429-90-5	5	-	-
Ci 77266	1333-86-4	2	-	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

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

rupture of sealed battery. In case of rupture:

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical

advice/attention.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present

and easy to do. Continue rinsing. Get immediate medical advice/attention.

Skin contact

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

reaction.



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. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Itching. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. 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.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing mediaDo not scatter spilled material with high pressure water streams.

Specific hazards arising from the

chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. 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 Attention! Corrosive material. 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



Page 4/14

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. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	Chemical name ACGIH TLV		NIOSH IDLH
Lithium Cobalt Oxide (CoLiO2)	` '		
12190-79-3			
Graphite	TWA: 2 mg/m³ respirable	TWA: 15 mg/m³ total dust	IDLH: 1250 mg/m ³
7782-42-5	particulate matter all forms	synthetic	TWA: 2.5 mg/m³ respirable
	except graphite fibers	TWA: 5 mg/m³ respirable	dust
		fraction synthetic	
		TWA: 15 mppcf respirable dust	
		natural	
		(vacated) TWA: 2.5 mg/m ³	
		respirable dust natural	
		(vacated) TWA: 10 mg/m³ total	
		dust synthetic	
		(vacated) TWA: 5 mg/m ³	
		respirable fraction synthetic TWA: 15 mppcf natural	
Copper	TWA: 0.2 mg/m³ fume	TWA: 0.1 mg/m³ fume	IDLH: 100 mg/m ³ dust, fume
7440-50-8		TWA: 1 mg/m ³ dust and mist	and mist
		(vacated) TWA: 0.1 mg/m³ Cu	TWA: 1 mg/m³ dust and mist
		dust, fume, mist	TWA: 0.1 mg/m ³ fume
Phosphate(1-), hexafluoro-, TWA: 2.5 mg/m³ F		TWA: 2.5 mg/m ³ F	IDLH: 250 mg/m ³ F
lithium		(vacated) TWA: 2.5 mg/m ³	
21324-40-3			
Nickel	TWA: 1.5 mg/m³	TWA: 1 mg/m ³	IDLH: 10 mg/m ³
7440-02-0		(vacated) TWA: 1 mg/m ³	TWA: 0.015 mg/m ³
Aluminum	TWA: 1 mg/m³ respirable	TWA: 15 mg/m³ total dust	TWA: 10 mg/m ³ total dust



7400.00.5		m = #ti=l=t= m		T\\\\\ \- \-		Τ\Λ/Λ.	T a. / 2	wa a mi wa la la ali wa t
7429-90-5		particulate n	rticulate matter TWA: 5		ig/m³ respirable fraction	I WA:	5 mg/m ³	respirable dust
				(vacated) TWA: 15 mg/m³ total				
				(vacateu) i v	dust			
				(veceted) TWA: 5 mg/m ³			
					able fraction			
Ci 77266		TWA: 3 mg/m ³	inhalahla		.: 3.5 mg/m ³		IDI LI: 17	750 mg/m ³
1333-86-4		particulate n			TWA: 3.5 mg/m ³			.5 mg/m ³
1333-00-4		Particulate ii	iallei	(vacateu)	TVVA. 3.3 mg/m²	T\\/.		n ³ Carbon black
								of Polycyclic
								ocarbons PAH
Chemical name		Alberta	British (L Columbia	Ontario TWAE			Quebec
Lithium Cobalt Oxide	TV	VA: 0.02 mg/m ³		02 mg/m ³	TWA: 0.02 mg/	-		: 0.02 mg/m ³
(CoLiO2)	1 V	VA. 0.02 mg/m²	1 777. 0.0	52 mg/m²	1 VVA. 0.02 mg/	111-	1 1 1 1 1 1 1	. 0.02 mg/m²
12190-79-3								
Graphite	7	ΓWA: 2 mg/m³	Τ\//Δ · 2	2 mg/m ³	TWA: 2 mg/m	3	T\//	'A: 2 mg/m ³
7782-42-5		1 VV/ (. 2 mg/m	1 007 (. 2	- 1119/111	1 W/X. 2 mg/m		'**	71. Z 1119/111
Copper	T	WA: 0.2 mg/m ³	TWA: 1	mg/m³	TWA: 0.2 mg/n	n ³	TW/	\: 0.2 mg/m ³
7440-50-8		ΓWA: 1 mg/m ³		2 mg/m ³	TWA: 1 mg/m			'A: 1 mg/m ³
Phosphate(1-),		WA: 2.5 mg/m ³		5 mg/m³	TWA: 2.5 mg/n			λ: 2.5 mg/m ³
hexafluoro-, lithium	•	vv/ t. 2.0 mg/m	1 777 (. 2.	o mg/m	1 1 1 1 2 3 1 1 1 9 1 1		'''	2.0 mg/m
21324-40-3								
Nickel	T	WA: 1.5 mg/m ³	TWA: 0.0	05 mg/m ³	TWA: 1 mg/m	3	TWA	A: 1.5 mg/m ³
7440-02-0				·· ·]			- ···g····
Aluminum	Т	WA: 10 mg/m ³	TWA: 1.	0 mg/m ³	TWA: 1 mg/m	3	TW	A: 10 mg/m ³
7429-90-5		· • · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·]			, g ,
Ci 77266	T	WA: 3.5 mg/m ³	TWA: 3	3 mg/m ³	TWA: 3 mg/m	3	TW	'A: 3 mg/m ³
1333-86-4		J		J				Ğ

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

(11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering controls Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield.

Hand protection Wear suitable gloves. Impervious gloves.

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

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. Contaminated work clothing should not be allowed out of the workplace. 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



3 - Rechargeable Li-ion Battery L24B3PK3 by Revision Date 24-Sep-2024

Information on basic physical and chemical properties

Physical stateSolidAppearanceBlackOdorOdorless

ColorNo information availableOdor ThresholdNo information available

Property Values Remarks Method

No data available рH None known None known Melting / freezing point No data available 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

Upper flammability limit
Lower flammability limit
No data available
No data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone knownRelative densityNo data availableNone known

Water Solubility Insoluble in water

Solubility(ies) No data available None known

Partition coefficient: n-octanol/water1

Autoignition temperatureNo data availableNone knownDecomposition temperatureNo data availableNone knownKinematic viscosityNo data availableNone knownDynamic viscosityNo data availableNone known

Other Information

Explosive properties No information available Oxidizing properties No information available **Softening Point** No information available **Molecular Weight** No information available No information available **VOC Content (%)** No information available **Liquid Density 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 Exposure to air or moisture over prolonged periods.

Incompatible materials Acids. Bases. Oxidizing agent.

Hazardous Decomposition Products Carbon oxides.



Page 7/14

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. Corrosive by inhalation.

(based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs.

Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Corrosive to the eyes and may cause severe damage including blindness.

Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be

harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing. 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) 5,424.30 mg/kg
ATEmix (dermal) 3,816.50 mg/kg
ATEmix (inhalation-gas) 29,700.00 ppm
ATEmix (inhalation-dust/mist) 9.90 mg/L
ATEmix (inhalation-vapor) 72.60 mg/L

Unknown acute toxicity 34 % of the mixture consists of ingredient(s) of unknown toxicity

27 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

34 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

34 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Product Information

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium Cobalt Oxide (CoLiO2)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat) 4 h
Graphite	-	-	> 2000 mg/m³ (Rat) 4 h



= 29000 mg/kg (Rat) > 3000 mg/kg (Rabbit) Propylene carbonate Propyl propionate = 10331 mg/kg (Rat) = 16 mL/kg (Rabbit) Ethylene carbonate = 10 g/kg (Rat)> 26420 mg/kg (Rabbit) > 730 mg/m³ (Rat) 8 h Copper > 5.11 mg/L (Rat) 4 hNickel > 9000 mg/kg (Rat) -> 10.2 mg/L (Rat) 1 hAluminum > 0.888 mg/L (Rat) 4 h Ci 77266 > 10000 mg/kg (Rat) > 2000 mg/kg (Rabbit) $> 4.6 \text{ mg/m}^3 \text{ (Rat) 4 h}$

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. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

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

ingredients. May cause cancer.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide	A3	Group 2B	Reasonably Anticipated	X
(CoLiO2)				
12190-79-3				
Nickel	-	Group 2B	Reasonably Anticipated	X
7440-02-0				
Ci 77266	A3	Group 2B	-	X
1333-86-4				

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 exposureCauses 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	Algae/aquatic plants	Fish	Toxicity to	Crustacea



Page 9/14

			microorganisms	
Graphite	No data available	96h LC50: > 100 mg/L (Danio rerio)	No data available	No data available
Propylene carbonate	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L (Daphnia magna)
Ethylene carbonate	No data available	96h LC50: > 100 mg/L (Oncorhynchus mykiss)	No data available	No data available
Copper	72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 0.112 mg/L (Poecilia reticulata)	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)
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)	No data available	48h EC50: > 100 mg/L (Daphnia magna) 48h EC50: = 1 mg/L (Daphnia magna)

Persistence and Degradability

No information available.

Bioaccumulation

Component Information

<u> </u>		
Chemical name	Partition coefficient	
Propylene carbonate	0.48	
Ethylene carbonate	0.11	

MobilityNo information available.Other adverse effectsNo 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.



141

Revision Date 24-Sep-2024

California Waste Codes

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
Nickel	Toxic powder
7440-02-0	Ignitable powder
Aluminum	Ignitable powder
7429-90-5	

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 147

Number

TDG Not applicable

ICAO Not applicable

IATA

MEX

UN-No. UN3480

Proper Shipping Name LITHIUM ION BATTERIES

Hazard Class

ERG Code 12FZ

Description UN3480, LITHIUM ION BATTERIES, 9

Not applicable

IMDG/IMO Not applicable

Proper Shipping Name NON-REGULATED PER SP 188

Hazard Class N/A F-A, S-I EmS-No.

This product contains a chemical which is listed as a marine pollutant according to **Marine Pollutant**

IMDG/IMO

<u>RID</u> Not applicable



ADR Not applicable

Not applicable

15. REGULATORY INFORMATION

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA

DSL/NDSL

Contact supplier for inventory compliance status.

KECL

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	Weight-%	SARA 313 - Threshold
			Values %
Lithium Cobalt Oxide (CoLiO2) - 12190-79-3	12190-79-3	45	0.1
Copper - 7440-50-8	7440-50-8	10	1.0
Nickel - 7440-02-0	7440-02-0	5	0.1
Aluminum - 7429-90-5	7429-90-5	5	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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	CWA - Toxic Pollutants	CWA - Priority	CWA - Hazardous



	Quantities		Pollutants	Substances
Copper 7440-50-8		X	Х	
Nickel 7440-02-0		X	Х	

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, 10/1/1989 (metallic)		
Ci 77266 - 1333-86-4	carcinogen, 2/21/2003 (airborne, unbound particles of respirable		
	size)		

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	Х		X	X	X
Graphite 7782-42-5	X	X	X		
Propyl propionate 106-36-5		Х	X		
Ethylene carbonate 96-49-1		X	X		
Copper 7440-50-8	X	Х	X	X	X
Phosphate(1-), hexafluoro-, lithium 21324-40-3	Х				
Nickel 7440-02-0	Х	Х	Х	Х	Х
Aluminum 7429-90-5	Х	Х	Х	Х	
Ci 77266 1333-86-4	Х	Х	Х		Х

16. OTHER INFORMATION	
10. OTHER IN ORMATION	

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

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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

