SAFETY DATA SHEET

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Revision Number 1

NGHS / English



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1. IDENTIFICATION

Product identifier

Product Name Lithium Ion Battery B12 4.0

Other means of identification

Product Code(s) 1554977

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 Hilti

Address 5400 S. 122nd E. Ave.

Tulsa OK 74146 US

Telephone Phone:918-872-5858

E-mail rebecca.moody@hilti.com

Emergency telephone number

Company Emergency Phone

Number

918-872-5858

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1A



Specific target organ toxicity (repeated exposure)

Category 1

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

Appearance Multiple Colors

Physical state Solid

Odor Odorless

GHS Label elements, including precautionary statements

Danger

Hazard statements

Harmful if swallowed Causes skin irritation Causes serious 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

Do not eat, drink or smoke when using this product

Contaminated work clothing must not be allowed out of the workplace

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

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 Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN: Wash with plenty of water and soap

Take off contaminated clothing and wash it before reuse

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

Ingestion

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

Rinse mouth

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

105.5 % of the mixture consists of ingredient(s) of unknown toxicity

89.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

103 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

105.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

105.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

105.5 % 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)
Supplier Trade Secret	-	30 - 40%	-	-
Supplier Trade Secret	-	20 - 30%	-	-
Supplier Trade Secret	-	0 - 10%	-	-
Supplier Trade Secret	-	0 - 10%	-	-
Supplier Trade Secret	-	0 - 10%	-	-
Supplier Trade Secret	-	0 - 10%	-	-
Supplier Trade Secret	=	0 - 10%	-	-
Supplier Trade Secret	-	0 - 10%	-	-

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.

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

Eye contact Get immediate medical advice/attention. 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.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an

allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water.

Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. 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 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

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. Use personal protective equipment as required.

Ensure adequate ventilation. 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 eat, drink or smoke when using this product. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. 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. Keep out of the reach

of children. Store locked up.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION



Control parameters

Exposure Limits

Supplier Trade Secret TWA: 0.02 mg/m³ Co inhalable particulate matter TWA: 0.2 mg/m³ Ni inhalable particulate matter TWA: 0.2 mg/m³ respirable particulate matter all forms except graphite fibers TWA: 2 mg/m³ respirable particulate matter all forms except graphite fibers TWA: 2 mg/m³ respirable fibers TWA: 5 mg/m³ respirable fibers TWA: 2.5 mg/m³ respirable fibers TWA: 5 mg/m³ respirable fibers TWA: 5 mg/m³ respirable fibers TWA: 1.5 mg/m³ respirable fibers TWA: 0.1 mg/m³ total dust synthetic (vacated) TWA: 5 mg/m³ respirable fibers TWA: 1.5 mg/m³ respirable fibers TWA: 1.5 mg/m³ frespirable fibers TWA: 2.5 mg/m³ frespirable fibers TWA	Chemical name		ACGIH T	LV	03	SHA PEL		NIOSH IDLH
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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 Tight sealing safety goggles.

Hand protection Wear suitable gloves. Impervious gloves.

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

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

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

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

skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling

the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid

Appearance Multiple Colors
Odor Odorless

Color No information available

Odor Threshold Not applicable

Property Values Remarks Method

No data available pН 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 None known

Upper flammability limit No data available

Lower flammability limit 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/waternone

Autoignition temperature

No data available

None known

Other Information

Explosive properties No information available **Oxidizing properties** No information available No information available **Softening Point** Molecular Weight No information available No information available **VOC Content (%) 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



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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 materials Strong acids. Strong bases. Strong oxidizing agents.

Hazardous Decomposition Products Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Product does not present an acute toxicity hazard based on known or supplied information

In case of rupture:

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

respiratory tract.

Eye contact Specific test data for the substance or mixture is not available. Severely irritating to eyes.

Causes serious eye damage. (based on components). May cause burns. May cause

irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. May cause sensitization by

skin contact. Repeated or prolonged skin contact may cause allergic reactions with

susceptible persons. (based on components). Causes skin irritation.

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

gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on

components).

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Itching. Rashes. Hives. May cause redness and

tearing of the eyes.

Numerical measures of toxicity

Acute Toxicity

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

 ATEmix (oral)
 523.60 mg/kg

 ATEmix (dermal)
 12,000.00 mg/kg

Unknown acute toxicity 105.5 % of the mixture consists of ingredient(s) of unknown toxicity

89.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

103 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

105.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas) 105.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

105.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information



Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Supplier Trade Secret	-	-	> 2000 mg/m³ (Rat) 4 h
Supplier Trade Secret	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat)1 h
Supplier Trade Secret	= 30 g/kg (Rat)	-	-
Supplier Trade Secret	= 10 g/kg (Rat)	> 3 g/kg (Rabbit)	> 730 mg/m³ (Rat) 8 h

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

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

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

damage to eyes.

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
Supplier Trade Secret	A3 A1	Group 2B	Reasonably Anticipated	X
		Group 1	Known	
Supplier Trade Secret	-	Group 2B	Reasonably Anticipated	X
			·	

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - 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 No information available.

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

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to	Daphnia Magna (Water
			Microorganisms	Flea)
Supplier Trade Secret	-	96h LC50: > 100 mg/L	-	-
		(Danio rerio)		
Supplier Trade Secret	72h EC50: 0.0426 -	96h LC50: = 0.052 mg/L	-	48h EC50: = 0.03 mg/L



	0.0535 mg/L	(Oncorhynchus mykiss)		
	(Pseudokirchneriella	96h LC50: = 0.3 mg/L		
	subcapitata) 96h EC50:	(Cyprinus carpio) 96h		
	0.031 - 0.054 mg/L	LC50: 0.0068 - 0.0156		
	(Pseudokirchneriella	mg/L (Pimephales		
	subcapitata)	promelas) 96h LC50: =		
		0.2 mg/L (Pimephales		
		promelas) 96h LC50: =		
		0.8 mg/L (Cyprinus		
		carpio) 96h LC50: =		
		0.112 mg/L (Poecilia		
		reticulata) 96h LC50: =		
		1.25 mg/L (Lepomis		
		macrochirus) 96h LC50:		
		< 0.3 mg/L (Pimephales		
		promelas)		
Supplier Trade Secret	96h EC50: 0.174 - 0.311	96h LC50: = 1.3 mg/L	-	48h EC50: = 1 mg/L 48h
	mg/L	(Cyprinus carpio) 96h		EC50: > 100 mg/L
	(Pseudokirchneriella	LC50: = 10.4 mg/L		
	subcapitata) 72h EC50: =	(Cyprinus carpio) 96h		
	0.18 mg/L	LC50: > 100 mg/L		
	(Pseudokirchneriella	(Brachydanio rerio)		
	subcapitata)			
Supplier Trade Secret	-	96h LC50: = 13.6 mg/L	-	-
		(Morone saxatilis)		
Supplier Trade Secret	-	96h LC50: > 100 mg/L	-	-
		(Oncorhynchus mykiss)		

Persistence and Degradability No information available.

Bioaccumulation There is no data for this product.

Mobility No information available.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

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

environmental legislation.

Contaminated packaging Do not reuse empty containers.

California 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
Supplier Trade Secret	Toxic
Supplier Trade Secret	Toxic
Supplier Trade Secret	Toxic powder Ignitable powder



Supplier Trade Secret	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 regulated

MEX Not regulated

ICAO Not regulated

<u>IATA</u> Not regulated

Proper Shipping Name NON REGULATED

Hazard Class N/A

IMDG/IMO Not regulated

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

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

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

International Regulations

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 %
Supplier Trade Secret -		30 - 40%	0.1
Supplier Trade Secret -		0 - 10%	1.0
Supplier Trade Secret -		0 - 10%	0.1
Supplier Trade Secret -		0 - 10%	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
Supplier Trade Secret		X		
Supplier Trade Secret		X	Х	
Supplier Trade Secret		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
Supplier Trade Secret	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Supplier Trade Secret	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	
Supplier Trade Secret -	carcinogen, 5/7/2004	
Supplier Trade Secret -	carcinogen, 10/1/1989 (metallic)	

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
Supplier Trade Secret	Х		X	X	Х
Supplier Trade Secret	Х	X	X		
Supplier Trade Secret	X	X	X	X	X
Supplier Trade Secret	Х	X	X	X	X
Supplier Trade Secret	Х	X	X	X	
Supplier Trade Secret		X	X		
Supplier Trade Secret	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

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Revision Note No information available

Disclaimer

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End of Safety Data Sheet

