

# Li-Ion Batteries >100 Wh

## Product Safety Information Sheet

A safety data sheet is not required for this product under Article 31 of REACH. This Product Safety Information Sheet has been created on a voluntary basis  
Issue date: 08.08.2024      Revision date: 08.08.2024      Supersedes version of: 17.04.2024      Version: 5.14

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form	Article
Product name	Li-Ion Batteries >100 Wh
Product code	BU ET&A
Other means of identification	Hilti B 18 / 5.2 Li-Ion (01), Hilti B 22 / 5.2 Li-Ion (01), Hilti B 22 / 8.0 Li-Ion (01), Hilti B 36 / 3.0 Li-Ion (01), Hilti B 36 / 3.3 Li-Ion (01), Hilti B 36 / 3.9 Li-Ion (01), Hilti B 36 / 5.2 Li-Ion (01), Hilti B 36 / 6.0 Li-Ion (01), Hilti B 36 / 9.0 Li-Ion (01), Hilti B 22-110 Li-Ion (01), Hilti B22-170 Li-Ion (01), Hilti B22-255 Li-Ion (01)

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec	For professional use only
Use of the substance/mixture	Rechargeable Lithium Ion battery for power tools

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of product safety information sheet

Supplier	Department issuing data specification sheet
Hilti Deutschland AG	Hilti AG
Hiltistr. 2	Feldkircherstraße 100
DE 86916 Kaufering	FL 9494 Schaan
Deutschland	Liechtenstein
T +49 8191 90-0 , F +49 8191 90-1122	T +423 234 2111
<a href="mailto:de.kundenservice@hilti.com">de.kundenservice@hilti.com</a>	<a href="mailto:product.compliance-power.tools@hilti.com">product.compliance-power.tools@hilti.com</a>

#### 1.4. Emergency telephone number

Emergency number	Emergency CONTACT (24-Hour-Number): GBK GmbH Global Regulatory Compliance +49 (0)6132-84463
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### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

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### 2.3. Other hazards

Other hazards which do not result in classification

For the battery chemical materials are stored in a hermetically sealed metal case, designed to withstand Temperatures and pressures encountered during normal use. As a result, during normal use there is no physical danger of ignition or explosion and chemical danger of hazardous materials leakage.

It may cause heat generation or electrolyte leakage if battery terminals contact with other metals. Electrolyte is flammable. In case of electrolyte leakage move the battery from fire immediately.

However if exposed to a fire, added mechanical shocks, decomposed, added electric stress by miss-use, the gas release vent will be operated. The battery case will be broken at the extreme, hazardous materials may be released.

Moreover, if heated strongly by a surrounding fire, acrid gas may be emitted.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Comments

Lithium Ion rechargeable battery pack:

Name/Type	Energy content (Wh)
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Hilti B 18 / 5.2 Li-Ion (01)	112,00
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Hilti B 22 / 5.2 Li-Ion (01)	112,00
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Hilti B 22 / 8.0 Li-Ion (01)	171,08
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Hilti B 36 / 3.0 Li-Ion (01)	108,00
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Hilti B 36 / 3.3 Li-Ion (01)	118,80
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Hilti B 36 / 3.9 Li-Ion (01)	140,40
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Hilti B 36 / 5.2 Li-Ion (01)	187,20
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Hilti B 36 / 6.0 Li-Ion (01)	216,00
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Hilti B 36 / 9.0 Li-Ion (01)	316,80
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Hilti B 22-110 Li-Ion (01)	110,16
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Hilti B 22-170 Li-Ion (01)	170,65
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Hilti B 22-255 Li-Ion (01)	255,96
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This product contains a positive electrode (Lithium cobalt oxide (CAS-No. 12190-79-3)), a negative electrode (graphite (CAS-No. 7782-42-5)) and electrolyte (ethylene carbonate(CAS-No. 96-49-1), diethyl carbonate (CAS-No. 105-58-8) and lithium hexafluorophosphate (CAS-No. 21324-40-3)).

The physical form of the product, however, precludes exposure to workers under normal conditions of use.

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of REACH Annex II

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general

If the electrolyte is leaking out of the battery pack, the following measures have to be taken.

First-aid measures after inhalation

Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact

Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion

Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects Not expected to present a significant hazard under anticipated conditions of normal use.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media Cool batteries and accumulators with water jet. In case of fire in the surroundings: Use extinguishing agent suitable for surrounding fire.

Unsuitable extinguishing media No additional information available.

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire Formation of toxic gases is possible during heating or in case of fire.

### 5.3. Advice for firefighters

Firefighting instructions Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures No flames, no sparks. Eliminate all sources of ignition. Isolate from fire, if possible, without unnecessary risk.

#### 6.1.1. For non-emergency personnel

Protective equipment Wear protective gloves, protective clothing. Safety goggles. Gas mask.

Emergency procedures Evacuate unnecessary personnel. No flames, no sparks. Eliminate all sources of ignition. Isolate from fire, if possible, without unnecessary risk.

#### 6.1.2. For emergency responders

Protective equipment Equip cleanup crew with proper protection.

Emergency procedures Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up Take up liquid spill into absorbent material.

Other information Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed Normal use of this product shall imply use in accordance with the instructions on the packaging and in line with the expectations of a professional user.

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### Precautions for safe handling

Do not soak in water or seawater.  
Do not expose to strong oxidizers.  
Do not give a strong mechanical shock or fling.  
Never disassemble, modify or deform.  
Do not connect the positive terminal to the negative terminal with electrically conductive material.  
Use only the chargers / electric tools specified by Hilti to charge or discharge the battery.

Do not throw into fire or expose to high temperatures (>85 °C).  
Do not connect the positive terminal to the negative terminal with electrically conductive material.

### Hygiene measures

Always wash hands after handling the product.

## 7.2. Conditions for safe storage, including any incompatibilities

### Storage conditions

Avoid direct sunlight, high temperature, high humidity.  
Store in a cool place (temperature: -20 °C ~ 40 °C, humidity: 45 - 85%).

### Incompatible products

Strong bases. Strong acids.

### Incompatible materials

Sources of ignition. Direct sunlight.

### Storage temperature

-20 – 40 °C

### Information on mixed storage

Store away from water.  
Do not store together with electrically conductive materials.

The accu-pack should be stored at 30 to 50% of the charging capacity.  
Avoid storing in places where it is exposed to static electricity.

### Storage area

Store in a well-ventilated place.

### Storage class (LGK, TRGS 510)

LGK 11 - Combustible solids

## 7.3. Specific end use(s)

No additional information available

# SECTION 8: Exposure controls/personal protection

## 8.1. Control parameters

### Additional information

No technical measures are necessary during normal use. In case of leakage of substances contained within the cell, the information below may be useful.

### 8.1.1. National occupational exposure and biological limit values

No additional information available

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

No additional information available

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

If the electrolyte is leaking out of the battery pack, the following measures have to be taken.

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### 8.2.2. Personal protection equipment

**Personal protective equipment:**

Avoid all unnecessary exposure.

**Personal protective equipment symbol(s):**



#### 8.2.2.1. Eye and face protection

**Eye protection:**

Chemical goggles or safety glasses

#### 8.2.2.2. Skin protection

**Hand protection:**

Wear protective gloves.

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,12		EN ISO 374

#### 8.2.2.3. Respiratory protection

**Respiratory protection:**

Wear appropriate mask

#### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

**Other information:**

Do not eat, drink or smoke during use.

No additional information available

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Solid
Colour	red. Black.
Appearance	plastic case.
Odour	Odourless.
Odour threshold	Not available
Melting point	Not available
Freezing point	Not available
Boiling point	Not available
Flammability	Non flammable.
Explosive properties	Risk of explosion by shock, friction, fire or other sources of ignition.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
pH	Not available
pH solution	Not available
Viscosity, kinematic	Not applicable

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Solubility	Not available
Partition coefficient n-octanol/water (Log Kow)	Not available
Vapour pressure	Not available
Vapour pressure at 50°C	Not available
Density	Not available
Relative density	Not available
Relative vapour density at 20°C	Not applicable
Particle size	Not available
Particle size distribution	Not available
Particle shape	Not available
Particle aspect ratio	Not available
Particle specific surface area	Not available
Particle dustiness	Not available

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Heating may cause a fire or explosion.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Water, humidity.

### 10.5. Incompatible materials

Conductive materials, water, seawater, strong oxidizers and strong acids.

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
Skin corrosion/irritation	Not classified
Additional information	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Not classified
Additional information	Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	Not classified
Additional information	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Not classified
Additional information	Based on available data, the classification criteria are not met
Carcinogenicity	Not classified

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Additional information	Based on available data, the classification criteria are not met
Reproductive toxicity	Not classified
Additional information	Based on available data, the classification criteria are not met
STOT-single exposure	Not classified
Additional information	Based on available data, the classification criteria are not met
STOT-repeated exposure	Not classified
Additional information	Based on available data, the classification criteria are not met
Aspiration hazard	Not classified
Additional information	Based on available data, the classification criteria are not met

### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

#### 11.2.2. Other information

Potential adverse human health effects and symptoms	This product contains an organic electrolyte. If the electrolyte is leaking out of the battery pack, the following effects are known when getting into contact: Irritation: severely irritant to eyes, Irritation: may cause irritation to the respiratory system
Other information	When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us

## SECTION 12: Ecological information

### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)	Not classified
Hazardous to the aquatic environment, long-term (chronic)	Not classified

### 12.2. Persistence and degradability

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Persistence and degradability	Not established.

### 12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

Additional information	Do not allow battery packs to penetrate the soil. The battery cell may corrode and electrolyte may leak.
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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations	Dispose in a safe manner in accordance with local/national regulations. Refer to manufacturer/supplier for information on recovery/recycling.
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Ecological information  
European List of Waste (LoW, EC 2000/532)

Avoid release to the environment.  
16 06 05 - other batteries and accumulators  
20 01 34 - batteries and accumulators other than those mentioned in 20 01 33

### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID /

ADR	IMDG	IATA	RID
<b>14.1. UN number or ID number</b>			
UN 3480	UN 3480	UN 3480	UN 3480
<b>14.2. UN proper shipping name</b>			
LITHIUM ION BATTERIES	LITHIUM ION BATTERIES	Lithium ion batteries	LITHIUM ION BATTERIES
<b>Transport document description</b>			
UN 3480 LITHIUM ION BATTERIES, 9, (E)	UN 3480 LITHIUM ION BATTERIES, 9	UN 3480 Lithium ion batteries, 9	UN 3480 LITHIUM ION BATTERIES, 9
<b>14.3. Transport hazard class(es)</b>			
9	9	9	9
<b>14.4. Packing group</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>			
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available			

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR) M4  
 Special provisions (ADR) 230, 377, 376, 636, 310, 348, 387  
 Limited quantities (ADR) 0  
 Packing instructions (ADR) P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906  
 Transport category (ADR) 2  
 Tunnel restriction code (ADR) E

#### Transport by sea

Special provisions (IMDG) 230, 376, 377, 310, 348, 384, 387  
 Limited quantities (IMDG) 0  
 Packing instructions (IMDG) P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906  
 EmS-No. (Fire) F-A  
 EmS-No. (Spillage) S-I  
 Stowage category (IMDG) A  
 Stowage and handling (IMDG) SW19  
 MFAG-No 147



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### Air transport

PCA packing instructions (IATA)	Forbidden
PCA max net quantity (IATA)	Forbidden
CAO packing instructions (IATA)	See 965
Special provisions (IATA)	A88, A99, A154, A164, A183, A213, A331, A802

### Rail transport

Special provisions (RID)	230, 310, 348, 376, 377, 387, 636
Limited quantities (RID)	0
Packing instructions (RID)	P903, 908, 909, P910, P911, LP903, LP904, LP905, LP906

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

##### REACH Annex XVII (Restriction List)

Not applicable.

##### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

##### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

##### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

#### 15.1.2. National regulations

##### Germany

Water hazard class (WGK)	WGK 3, Highly hazardous to water.
Hazardous Incident Ordinance (12. BImSchV)	Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

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Indication of changes			
Section	Changed item	Change	Comments
15.1	Water hazard class (WGK)	Modified	

SDS\_EU\_Hilti