# Li-Ion Battery 3Plus

## Safety information for Lithium-Ion batteries

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

### Product identifier

Trade name: Li-Ion Battery 3Plus

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

Rechargeable Lithium Ion battery

### Manufacturer/Supplier

**Supplier**
Hilti, Inc.
Legacy Tower, Suite 1000
7250 Dallas Parkway
TX 75024 Plano - USA
T +1 9724035800
1-800-879-8000 toll free - F +1 918 254 0522

**Department issuing data specification sheet**
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86916 Kaufering - Deutschland
T +49 8191 906310 - F +49 8191 90176310
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## SECTION 2: Hazards identification

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 breaked 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

Lithium Ion rechercheable battery pack:

| Name/Type | Energy content (Wh) |
|---|---|
| 3Plus | 3,8 |

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.

## SECTION 4: First aid measures

### 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 | Assure fresh air breathing. 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. |

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

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

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### Extinguishing media

| | |
|---|---|
| Suitable extinguishing media | Cool batteries and accumulators with water jet. Water spray. Foam. Dry powder. Carbon dioxide. Sand. |

### Special hazards arising from the substance or mixture

No additional information available

### 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

### 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. |

**For non-emergency personnel**

| | |
|---|---|
| Emergency procedures | Evacuate unnecessary personnel. |

**For emergency responders**

| | |
|---|---|
| Protective equipment | Equip cleanup crew with proper protection. |
| Emergency procedures | Ventilate area. |

### Environmental precautions

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

### 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. |

## SECTION 7: Handling and storage

### Precautions for safe handling

| | |
|---|---|
| Precautions for safe handling | Do not soak in water or seawater.<br>Do not expose to strong oxidizers.<br>Do not give a strong mechanical shock or fling.<br>Never disassemble, modify or deform.<br>Do not connect the positive terminal to the negative terminal with electrically conductive material.<br>Use only the chargers / electric tools specified by Hilti to charge or discharge the battery.<br><br>Do not throw into fire or expose to high temperatures (>85 °C).<br>Do not connect the positive terminal to the negative terminal with electrically conductive material. |
| Hygiene measures | Always wash hands after handling the product. |

### Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| Storage conditions | Avoid direct sunlight, high temperature, high humidity.<br>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.<br>Do not store together with electrically conductive materials.<br><br>The accu-pack should be stored at 30 to 50% of the charging capacity.<br>Avoid storing in places where it is exposed to static electricity. |

## SECTION 8: Exposure controls/personal protection

### Exposure controls

| | |
|---|---|
| Appropriate engineering controls | If the electrolyte is leaking out of the battery pack, the following measures have to be taken. |
| Personal protective equipment | Avoid all unnecessary exposure. |
| Hand protection | Wear protective gloves. |

| Type | Material | Permeation | Thickness (mm) | Standard |
|---|---|---|---|---|
| Disposable gloves | Nitrile rubber (NBR) | 6 (> 480 minutes) | 0,12 | EN 374 |

Eye protection: Chemical goggles or safety glasses

Other information: Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

| | |
|---|---|
| Appearance | plastic case. |
| Colour | Black. |
| Explosive properties | Risk of explosion by shock, friction, fire or other sources of ignition. |

### Other information

No additional information available

## SECTION 10: Stability and reactivity

### Reactivity

No additional information available

### Chemical stability

Stable under normal conditions.

### Possibility of hazardous reactions

Heating may cause a fire or explosion.

### Conditions to avoid

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

### Incompatible materials

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

### Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### Information on toxicological effects

| | |
|---|---|
| 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

| | |
|---|---|
| Additional information | Do not allow battery packs to penetrate the soil.<br>The battery cell may corrode and electrolyte may leak. |

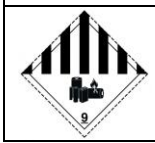
## SECTION 13: Disposal considerations

### 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. |
| Ecology - waste materials | Avoid release to the environment. |
| European List of Waste (LoW) code | 16 06 05 - other batteries and accumulators<br>20 01 34 - batteries and accumulators other than those mentioned in 20 01 33 |

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

| ADR | IMDG | IATA | RID |
|---|---|---|---|
| **UN number** | | | |
| 3480 | 3480 | 3480 | 3480 |
| **UN proper shipping name** | | | |
| LITHIUM ION BATTERIES | LITHIUM ION BATTERIES | Lithium ion batteries | LITHIUM ION BATTERIES |
| **Transport document description** | | | |
| UN 3480 LITHIUM ION BATTERIES, 9A, (E) | UN 3480 LITHIUM ION BATTERIES, 9 | | |
| **Transport hazard class(es)** | | | |
| 9A | 9A | 9A | 9A |
|  |  |  |  |

| ADR | IMDG | IATA | RID |
|---|---|---|---|
| **Packing group** | | | |
| Not applicable | Not applicable | Not applicable | Not applicable |
| **Environmental hazards** | | | |
| Dangerous for the environment : No | Dangerous for the environment : No<br>Marine pollutant : No | Dangerous for the environment : No | Dangerous for the environment : No |
| No supplementary information available | | | |

## Special precautions for user

**- Overland transport**

| | |
|---|---|
| Classification code (ADR) | M4 |
| Special provisions (ADR) | 188, 230, 636b, 376, 377 |
| Limited quantities (ADR) | 0 |
| Packing instructions (ADR) | P903, P908, P909 |
| Transport category (ADR) | 2 |
| Tunnel restriction code (ADR) | E |

**- Transport by sea**

| | |
|---|---|
| Special provisions (IMDG) | 188, 230b, 376, 377 |
| Limited quantities (IMDG) | 0 |
| Packing instructions (IMDG) | P903, P908, P909 |
| EmS-No. (Fire) | F-A |
| EmS-No. (Spillage) | S-I |
| Stowage category (IMDG) | A |
| MFAG-No | 147 |

**- Air transport**

| | |
|---|---|
| PCA packing instructions (IATA) | 965 |
| PCA max net quantity (IATA) | 5kg |
| CAO packing instructions (IATA) | 965 |
| Special provisions (IATA) | A88, A99, A154, A164, A183 |

**- Rail transport**

| | |
|---|---|
| Special provisions (RID) | 188, 230, 636b, 376, 377 |
| Limited quantities (RID) | 0 |
| Packing instructions (RID) | P903, P908, P909 |
| Carriage prohibited (RID) | No |

## Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No additional information available

# SECTION 15: Regulatory information

No additional information available

# SECTION 16: Other information

Indication of changes:

| | | | |
|---|---|---|---|
| 14.3 | Danger labels (ADR) | Modified | |

| | | | |
|---|---|---|---|
| 14.3 | Danger labels (IMDG) | Modified | |
| 14.3 | Hazard labels (IATA) | Modified | |
| 14.3 | Danger labels (RID) | Modified | |

Safety information for Lithium-Ion batteries

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*