

FX 3-A tool containing lithium ion battery

Safety Data Sheet

according to GB/T 16483 and GB/T 17519

Version:2.1

Revision date: 2023/04/05

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Supersedes:

SECTION 1 Chemical product and company identification

Product identifier

| | |
|---------------------------------|--|
| Product form | Article |
| Name | FX 3-A tool containing lithium ion battery |
| Product code | BU Direct Fastening |
| Chemical Chinese name | |
| Chemical English name | |
| Recommended use of the chemical | For professional use only Electrical batteries and accumulators |

Details of the supplier of the safety data sheet

| | |
|--|---|
| Supplier Hilti (China) Ltd. 8F, Tower 2, No.58 Yao Yuan Rd. Pudong District 200126 Shanghai - China T +86 21 6016 7316 | Department issuing data specification sheet Hilti Entwicklungsgesellschaft mbH Hiltistraße 6 86916 Kaufering - Deutschland T +49 8191 906876 anchor.hse@hilti.com |
|--|---|

Emergency telephone number

| | |
|------------------|--|
| Emergency number | Schweizerisches Toxikologisches Informationszentrum - 24h Service +41 44 251 51 51 (international) |
|------------------|--|

| Country | Organisation/Company | Address | Emergency number |
|---------|---|---------|------------------|
| China | 中国境内化学事故应急咨询电话 / chemical accident emergency consultation service hotline (24/7) | | +86 532 83889090 |

SECTION 2 Hazards identification

Emergency overview

Treat symptomatically. Grey. Direct sunlight. Extremely high or low temperatures. Water, humidity. fume. Carbon monoxide. Carbon dioxide. Conductive materials, water, seawater, strong oxidizers and strong acids. Dust/Mist. Heating may cause a fire or explosion. Ventilate area. Equip cleanup crew with proper protection. Risk of explosion by shock, friction, fire or other sources of ignition.

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GHS hazard classification

Other hazards not mentioned above are Not applicable or No data is available.

Label elements

No data available

Physical and chemical hazards

No additional information available

Health hazards

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

Environmental hazards

No additional information available

Other hazards

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

Product form

Article.

Comments

Lithium Ion rechercheable battery pack:
Name/Type Energy content (Wh).
16S3P ANR26650 396.

This product contains a positive electrode (Lithium iron phosphate), a negative electrode (graphite), electrolyte and binder.

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

This mixture does not contain any substance to be mentioned according to the criteria of section 3 of GB/T 17519-2013

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SECTION 4 First-aid measures

Description of necessary 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. If necessary seek medical advice |
| 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/effects

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

Advices for first aid responders

No additional information available

Notes for the doctor

| | |
|-----------------------------------|-----------------------|
| Other medical advice or treatment | Treat symptomatically |
|-----------------------------------|-----------------------|

SECTION 5 Fire-fighting measures

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 |

Specific hazards

| | |
|-------------|--|
| Fire hazard | Water may not extinguish burning batteries but will cool adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended. |
|-------------|--|

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| | |
|--|---|
| Hazardous decomposition products in case of fire | Formation of toxic gases is possible during heating or in case of fire. Water might react with released Lithium hexafluorophosphate to highly toxic gaseous hydrogen fluoride. |
|--|---|

Advice for firefighters and protective measures

| | |
|--------------------------------|--|
| 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 | Use a self-contained breathing apparatus and also a protective suit |

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 |
| Personal Precautions, Protective Equipment and Emergency Procedures | No additional information available |

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 | No additional information available |
| For containment | No additional information available |

Prevention measures for secondary accidents

| | |
|---|--|
| Prevention Measures for Secondary Accidents | No additional information available |
| Other information | Dispose of materials or solid residues at an authorized site |

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SECTION 7 Handling and storage

Handling

| | |
|--|---|
| <p>Precautions for safe handling</p> | <p>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.</p> <p>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. Charge within limits of 0° C to 45° C temperature. Discharge within limits of -20° C to +60° C temperature.</p> |
| <p>Hygiene measures</p> | <p>Always wash hands after handling the product</p> |
| <p>Local and general ventilation</p> | <p>No additional information available</p> |
| <p>Additional hazards when processed</p> | <p>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</p> |

Storage

| | |
|--|---|
| <p>Storage conditions</p> | <p>Protect from heat and direct sunlight Protect from moisture.</p> |
| <p>Material used in packaging/containers</p> | <p>No additional information available</p> |
| <p>Incompatible products</p> | <p>Strong bases. Strong acids.</p> |
| <p>Incompatible materials</p> | <p>Sources of ignition. Direct sunlight.</p> |
| <p>Storage temperature</p> | <p>-20 - 45 ° C (humidity: 0% - 80%)</p> |
| <p>Information on mixed storage</p> | <p>Store away from water. Do not store together with electrically conductive materials.</p> <p>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.</p> |
| <p>Storage area</p> | <p>Store in a well-ventilated place.</p> |

SECTION 8 Exposure controls / Personal protection equipment

Occupational exposure limits

| FX 3-A tool containing lithium ion battery | |
|--|-----------------------|
| China - Occupational Exposure Limits | |
| Local name | 乙酸乙酯 # Ethyl acetate |
| OEL PC-TWA | 200 mg/m ³ |
| OEL PC-STEL | 300 mg/m ³ |

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| | |
|----------------------|--------------|
| Regulatory reference | GBZ 2.1-2019 |
|----------------------|--------------|

Biological limit values

No additional information available

Monitoring methods

No additional information available

Appropriate engineering controls

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

Personal protective equipment

| | |
|-------------------------------|--|
| Personal protective equipment | Avoid all unnecessary exposure |
| Other information | Do not eat, drink or smoke when using this product. No additional information available |
| Hand protection | Wear protective gloves |

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

| | |
|---|-------------------------------------|
| Eye protection | Chemical goggles or safety glasses |
| Skin and body protection | No additional information available |
| Respiratory protection | No additional information available |
| Personal protective equipment symbol(s) | |



SECTION 9 Physical and chemical properties

| | |
|---------------------------|-------------------|
| Physical state | Solid |
| Appearance | No data available |
| Colour | Grey |
| Odour | No data available |
| pH | No data available |
| Melting point | No data available |
| Freezing point | Not applicable |
| Boiling point | Not applicable |
| Flash point | Not applicable |
| Auto-ignition temperature | Not applicable |
| Decomposition temperature | No data available |
| Flammability | Non flammable. |

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| | |
|---|--|
| Vapour pressure | No data available |
| Relative vapour density at 20° C | No data available |
| Density | No data available |
| Solubility | No data available |
| Partition coefficient n-octanol/water (Log Pow) | No data available |
| Viscosity, kinematic | Not applicable |
| Explosive limits (vol %) | Not applicable |
| Lower explosion limit | No data available |
| Upper explosion limit | No data available |
| Radioactive | No |
| Explosive properties | Risk of explosion by shock, friction, fire or other sources of ignition. |

SECTION 10 Stability and reactivity

| | |
|------------------------------------|---|
| Chemical stability | Stable under normal conditions |
| Reactivity | No additional information available |
| 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 |
| Other properties | No additional information available |

SECTION 11 Toxicological information

Acute toxicity

| | |
|-----------------------------|--|
| Acute toxicity (oral) | No data available (Based on available data, the classification criteria are not met) |
| Acute toxicity (dermal) | No data available (Based on available data, the classification criteria are not met) |
| Acute toxicity (inhalation) | No data available (Based on available data, the classification criteria are not met) |

Skin corrosion/irritation

| | |
|---------------------------|--|
| Skin corrosion/irritation | No data available (Based on available data, the classification criteria are not met) |
|---------------------------|--|

Serious eye damage/eye irritation

| | |
|-------------------------------|--|
| Serious eye damage/irritation | No data available (Based on available data, the classification criteria are not met) |
|-------------------------------|--|

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Respiratory or skin sensitisation

| | |
|-----------------------------------|--|
| Respiratory or skin sensitisation | No data available (Based on available data, the classification criteria are not met) |
|-----------------------------------|--|

Germ cell mutagenicity

| | |
|------------------------|--|
| Germ cell mutagenicity | No data available (Based on available data, the classification criteria are not met) |
|------------------------|--|

Carcinogenicity

| | |
|-----------------|--|
| Carcinogenicity | No data available (Based on available data, the classification criteria are not met) |
|-----------------|--|

Reproductive toxicity

| | |
|-----------------------|--|
| Reproductive toxicity | No data available (Based on available data, the classification criteria are not met) |
|-----------------------|--|

STOT - single exposure

| | |
|----------------------|--|
| STOT-single exposure | No data available (Based on available data, the classification criteria are not met) |
|----------------------|--|

STOT - repeated exposure

| | |
|------------------------|--|
| STOT-repeated exposure | No data available (Based on available data, the classification criteria are not met) |
|------------------------|--|

Aspiration hazard

| | |
|-------------------|--|
| Aspiration hazard | No data available (Based on available data, the classification criteria are not met) |
|-------------------|--|

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| | |
|----------------------|----------------|
| Viscosity, kinematic | Not applicable |
|----------------------|----------------|

SECTION 12 Ecological information

Ecotoxicity

| | |
|--|--|
| Hazardous to the aquatic environment, short-term (acute) | No data available (Based on available data, the classification criteria are not met) |
|--|--|

| | |
|---|--|
| Hazardous to the aquatic environment, long-term (chronic) | No data available (Based on available data, the classification criteria are not met) |
|---|--|

No additional information available

Persistence and degradability

No additional information available

Bioaccumulative potential

No additional information available

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Mobility in soil

No additional information available

Other adverse effects

| | |
|----------------------------------|--|
| Classification procedure (Ozone) | No data available |
| Other adverse effects | Do not allow battery packs to penetrate the soil. The battery cell may corrode and electrolyte may leak. |
| Other information | Do not allow battery packs to penetrate the soil. The battery cell may corrode and electrolyte may leak. |

SECTION 13 Disposal considerations

| | |
|--|--|
| Waste treatment methods | No additional information available |
| Contaminated container and packaging | No additional information available |
| Additional information | No additional information available |
| 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. |

SECTION 14 Transport information

In accordance with ADR / IMDG / IATA / RID

| ADR | IMDG | IATA | RID |
|---|---|--|--|
| 14.1. UN number or ID number | | | |
| UN 3481 | UN 3481 | UN 3481 | UN 3481 |
| 14.2. UN proper shipping name | | | |
| LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT | LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT | Lithium ion batteries contained in equipment | LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT |
| Transport document description | | | |
| UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, 9A, (E) | UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, 9 | UN 3481 Lithium ion batteries contained in equipment, 9A | UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, 9A |
| 14.3. Transport hazard class(es) | | | |
| 9A | 9A | 9A | 9A |
| | | | |

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| ADR | IMDG | IATA | RID |
|--|---|-----------------------------------|-----------------------------------|
| 14.4. Packing group | | | |
| Not applicable | Not applicable | Not applicable | Not applicable |
| 14.5. Environmental hazards | | | |
| 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, 310, 348, 360, 376, 377, 387, 390, 670 |
| Limited quantities (ADR) | 0 |
| Excepted quantities (ADR) | E0 |
| 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, 310, 348, 360, 376, 377, 384, 387 |
| Limited quantities (IMDG) | 0 |
| Excepted quantities (IMDG) | E0 |
| 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 |
| Properties and observations (IMDG) | Electrical batteries containing lithium ion encased in a rigid metallic body. Lithium ion batteries may also be shipped in, or packed with, equipment. Electrical lithium batteries may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants. |
| MFAG-No | 138 |

Air transport

| | |
|--|-----------|
| PCA Excepted quantities (IATA) | E0 |
| PCA Limited quantities (IATA) | Forbidden |
| PCA limited quantity max net quantity (IATA) | Forbidden |
| PCA packing instructions (IATA) | 967 |
| PCA max net quantity (IATA) | 5kg |
| CAO packing instructions (IATA) | 967 |

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| | |
|-----------------------------|---|
| CAO max net quantity (IATA) | 35kg |
| Special provisions (IATA) | A48, A88, A99, A154, A164, A181, A185, A213, A220 |
| ERG code (IATA) | 12FZ |

Rail transport

| | |
|---------------------------------------|--|
| Classification code (RID) | M4 |
| Special provisions (RID) | 230, 310, 348, 360, _376, 377, 387, 390, 670 |
| Limited quantities (RID) | 0 |
| Excepted quantities (RID) | E0 |
| Packing instructions (RID) | P903, 908, 909, P910, P911, LP903, LP904, LP905, LP906 |
| Transport category (RID) | 2 |
| Colis express (express parcels) (RID) | CE2 |
| Hazard identification number (RID) | 90 |

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15 Regulatory information

Regulation on the Administration of Precursor Chemicals (Decree 445 of the State Council)

Catalogue of Precursor Chemicals

SECTION 16 Other information

Data sources European Chemicals Agency, <http://echa.europa.eu/> manufacturer

| Abbreviations and acronyms | |
|----------------------------|---|
| CAS-No. | Chemical Abstract Service number |
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| CLP | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| DNEL | Derived-No Effect Level |
| EC50 | Median effective concentration |
| ED | Endocrine disrupting properties |
| EC-No. | European Community number |
| EN | European Standard |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| IOELV | Indicative Occupational Exposure Limit Value |
| LC50 | Median lethal concentration |

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| | |
|----------|---|
| LD50 | Median lethal dose |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| N. O. S. | Not Otherwise Specified |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| TLM | Median Tolerance Limit |
| TRGS | Technical Rules for Hazardous Substances |
| VOC | Volatile Organic Compounds |
| WGK | Water Hazard Class |
| vPvB | Very Persistent and Very Bioaccumulative |
| NOAEL | No-Observed Adverse Effect Level |
| NOAEC | No-Observed Adverse Effect Concentration |
| LOAEL | Lowest Observed Adverse Effect Level |

| Section | Changed item | Change | Comments |
|---------|-----------------------------|-----------|----------|
| 1. | Trade name. | Modified. | |
| 14. | Transportation information. | Modified. | |

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.