



FX 3-A tool containing lithium ion battery

Safety Data Sheet

according to GB/T 16483 and GB/T 17519

Version 3.0

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Supersedes: 2023/04/05

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	Department issuing data specification sheet
Hilti (China) Ltd.	Hilti AG
8F, Tower 2, No.58 Yao Yuan Rd.	Feldkircherstraße 100
Pudong District	9494 Schaan - Liechtenstein
200126 Shanghai - China	T +423 234 2111
T +86 21 6016 7316	product.compliance-direct.fastening@hilti.com

Emergency telephone number

Emergency number	Emergency CONTACT (24-Hour-Number)
	GBK GmbH Global Regulatory Compliance
	+49 (0)6132-84463

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

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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
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Advices for first aid responders

No additional information available

Notes for the doctor

Other medical advice or treatment	Treat symptomatically
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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.
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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 For further information refer to section 8: "Exposure controls/personal protection" For further information refer to section 13
Personal Precautions, Protective Equipment and Emergency Procedures	No additional information available

For non-emergency personnel

Emergency procedures	Evacuate unnecessary personnel
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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

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. Charge within limits of 0° C to 45° C temperature. Discharge within limits of -20° C to +60° C temperature.
Hygiene measures	Always wash hands after handling the product
Local and general ventilation	No additional information available
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

Storage

Storage conditions	Protect from heat and direct sunlight Protect from moisture.
Material used in packaging/containers	No additional information available
Incompatible products	Strong bases. Strong acids.
Incompatible materials	Sources of ignition. Direct sunlight.
Storage temperature	-20 - 45 ° C (humidity: 0% - 80%)
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.

SECTION 8 Exposure controls / Personal protection equipment

Occupational exposure limits

No additional information available

Biological limit values

No additional information available

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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.
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.
Vapour pressure	No data available
Relative vapour density at 20° C	No data available
Density	No data available
Solubility	No data available

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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.
Particle size	Not available

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)
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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)
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Germ cell mutagenicity

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

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

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

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

STOT - repeated exposure	No data available (Based on available data, the classification criteria are not met)
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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
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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)
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Hazardous to the aquatic environment, long-term (chronic)	No data available (Based on available data, the classification criteria are not met)
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No additional information available

Persistence and degradability

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Persistence and degradability	Not established
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Bioaccumulative potential

No additional information available

Mobility in soil

No additional information available

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Other adverse effects

Classification procedure (Ozone)	No data available (Based on available data, the classification criteria are not met)
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
Ecological waste information	Avoid release to the environment.

SECTION 14 Transport information

In accordance with JT/T 617 / IMDG / IATA

Overland transport (JT/T 617)	Transport by sea	Air transport
UN number		
3481	3481	3481
Proper shipping name		
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, Class 9	UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, 9	UN 3481 Lithium ion batteries contained in equipment, 9
Transport hazard class(es)		
9	9	9
		
Packing group		
Not applicable	Not applicable	Not applicable
Environmental hazards		
Dangerous for the environment No	Dangerous for the environment No	Dangerous for the environment No

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Overland transport (JT/T 617)	Transport by sea	Air transport
	Marine pollutant No	
No supplementary information available		

Special transport precautions

MFAG-No	138
Overland transport (JT/T 617)	
Classification code (JT/T 617)	M4.
Special provisions (JT/T 617)	188, 230, 348, 376, 377, 360, 636.
Limited quantities (JT/T 617)	0.
Excepted quantities (JT/T 617)	E0.
Packing instructions (JT/T 617)	P903, P908, P909, LP903, LP904.
Transport category (JT/T 617)	2.
Tunnel restriction code (JT/T 617)	E.
Transport by sea	
Special provisions (IMDG)	188, 230, 310, 348, 360, 376, 377, 384, 387, 390.
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 may react (e.g. flame, heat, emission of toxic, corrosive or flammable gases or vapours) or disassemble due to damage, defects or short circuit.
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.
CAO max net quantity (IATA)	35kg.

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Special provisions (IATA)	A48, A88, A99, A154, A181, A185, A213, A220.
ERG code (IATA)	12FZ.

SECTION 15 Regulatory information

Regulations on the Safe Management of Hazardous Chemicals (Decree 591 of the State Council)

Catalogue of Hazardous Chemicals (2015) Contains Hazardous Chemical(s)

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 disruptor
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
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

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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.