

FX 3-A tool containing lithium ion battery

Safety Data Sheet

according to the Hazardous Products Regulation (WHMIS 2015)

Issue date: 04/05/2023

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Version: 2.1

SECTION 1: Identification

1.1. Product identifier

Product form	Article
Name	FX 3-A tool containing lithium ion battery
Product code	BU Direct Fastening

1.2. Recommended use and restrictions on use

Recommended use	For professional use only, Electrical batteries and accumulators
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1.3. Supplier

Supplier	Department issuing data specification sheet
Hilti (Canada) Corp. 2360 Meadowpine Boulevard Mississauga, Ontario, L5N 6S2 Canada T +1905 8139200 1-800-363-4458 toll free - F +1 905 813 9009	Hilti Entwicklungsgesellschaft mbH Hiltistrasse 6 Kaufering, 86916 Deutschland T +49 8191 906310 - F +49 8191 90176310 df-hse@hilti.com

1.4. Emergency telephone number

Emergency number	Chem-Trec Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada) Tel.: 703 527 3887 (Other countries)
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SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Not classified

2.2. GHS Label elements, including precautionary statements

GHS CA labelling

No labelling applicable

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.
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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 broke at the extreme, hazardous materials may be released.

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

2.4. Unknown acute toxicity (GHS CA)

No data available

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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)
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 substances to be mentioned according to the criteria of schedule 1, item 3 of the Hazardous Products Regulations.

SECTION 4: First-aid measures

4.1. Description of first aid measures

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.

First-aid measures general

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

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects

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

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable 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.

5.2. Unsuitable extinguishing media

No additional information available

5.3. Specific hazards arising from the hazardous product

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.

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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5.4. Special protective equipment and precautions for fire-fighters

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

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.
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6.2. Methods and materials 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.

6.3. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe 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.
Hygiene measures	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. Always wash hands after handling the product.
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.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Protect from heat and direct sunlight. Protect from moisture.
Incompatible products	Strong bases. Strong acids.
Incompatible materials	Sources of ignition. Direct sunlight.
Storage temperature	-20 – 45 °C (humidity: 0% - 80%)
Storage area	Store in a well-ventilated place.
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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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8.2. Appropriate engineering controls

Appropriate engineering controls

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

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Type	Material	Permeation	Thickness (mm)	Penetration
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,12	

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

No additional information available

Personal protective equipment symbol(s):



Other information:

Do not eat, drink or smoke when using this product. No additional information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	No data available
Colour	Grey
Odour	Mixture contains one or more component(s) which have the following odour:
Odour threshold	No data available
pH	No data available
Relative evaporation rate (butylacetate=1)	No data available
Relative evaporation rate (ether=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapour pressure	No data available
Relative vapour density at 20°C	No data available
Relative density	No data available

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Solubility	No data available
Partition coefficient n-octanol/water (Log Pow)	No data available
Viscosity, kinematic	No data available
Explosive properties	Risk of explosion by shock, friction, fire or other sources of ignition.
Explosive limits	No data available

9.2. 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.
Hardening time:	No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitization	Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	Not classified (Based on available data, the classification criteria are not met)
Symptoms/effects	Not expected to present a significant hazard under anticipated conditions of normal use.
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 (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic)	Not classified (Based on available data, the classification criteria are not met)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone	Not classified
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

13.1. Disposal 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.

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
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available			

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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
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

15.1. National regulations

No additional information available

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15.2. International regulations

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Not listed on the United States TSCA (Toxic Substances Control Act) inventory

SECTION 16: Other information

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Indication of changes			
Section	Changed item	Change	Comments
1	Trade name	Modified	
14	Transport information	Modified	

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
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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Abbreviations and acronyms:	
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

SDS CA HILTI

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.