

FX 3-A tool containing lithium ion battery

Safety Data Sheet

according to the WHS Regulations

Issue date: 05/04/2023

Revision date: 05/04/2023

Version: 2.1

SECTION 1: Product identifier

1.1. GHS Product identifier

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

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use	For professional use only Electrical batteries and accumulators
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1.4. Details of manufacturer or importer

Supplier

Hilti (Aust.) Pty. Ltd.
Level 5, 1G Homebush Bay Drive
P.O. Box 3217
Rhodes NSW 2138
Australia
T +61 131 292 - F +61 1300 135 042
serviceaustralia@hilti.com

Department issuing data specification sheet:

Hilti Entwicklungsgesellschaft mbH
Hiltistrasse 6
Kaufering 86916
Deutschland
T +49 8191 906310 - F +49 8191 90176310
df-hse@hilti.com

1.5. Emergency phone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +61 2 8748 1000
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SECTION 2: Hazard identification

2.1. Classification of the hazardous chemical

Classification according to the model Work Health and Safety Regulations (WHS Regulations)

Not classified

2.2. GHS Label elements, including precautionary statements

Contains	Graphite
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2.3. Other hazards which do not result in classification

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 and information on ingredients

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Comments	<p>Lithium Ion rechargeable battery pack: Name/Type Energy content (Wh). 16S3P ANR26650 396.</p> <p>This product contains a positive electrode (Lithium iron phosphate), a negative electrode (graphite), electrolyte and binder.</p> <p>The physical form of the product, however, precludes exposure to workers under normal conditions of use.</p>
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Name	CAS-No.	%	Classification according to the model Work Health and Safety Regulations (WHS Regulations)
Graphite	7782-42-5		Not classified

SECTION 4: First aid measures

4.1. 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.

4.2. Symptoms caused by exposure

Symptoms/effects	Not expected to present a significant hazard under anticipated conditions of normal use.
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4.3. Medical attention and special treatment

Other medical advice or treatment	Treat symptomatically.
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SECTION 5: Fire-fighting 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.
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5.2. Specific hazards arising from the chemical

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

5.3. 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.
Hazchem Code	2Y

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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

Emergency procedures Evacuate unnecessary personnel.

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 materials for containment and cleaning up

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

Reference to other sections (13) Concerning personal protective equipment to use, see section 8. 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.

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.
Always wash hands after handling the product.

Hygiene measures

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%)

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 and personal protection

8.1. Control parameters - exposure standards

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Australia - Occupational Exposure Limits	
Local name	Ethyl acetate (Acetic acid ethyl ester; Acetic ester)
OES TWA [1]	720 mg/m ³
OES TWA [2]	200 ppm
OES STEL	1440 mg/m ³
OES STEL [ppm]	400 ppm
Regulatory reference	Workplace exposure standards for airborne contaminants (2019)
Graphite (7782-42-5)	
Australia - Occupational Exposure Limits	
Local name	Graphite (all forms except fibres) (natural & synthetic)
OES TWA [1]	3 mg/m ³ respirable dust
Remark (AU)	(e) Containing no asbestos and < 1% crystalline silica.
Regulatory reference	Workplace exposure standards for airborne contaminants (2022)

8.2. Monitoring methods

No additional information available

8.3. 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.

8.4. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment

Avoid all unnecessary exposure.

Hand protection

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

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

Physical state	Solid
Appearance	No data available
Colour	Grey
Odour	Odourless.
Odour threshold	No data available
pH	No data available
pH solution	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point / Freezing point	No data available
Boiling point	No data available
Flash point	No data available

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Auto-ignition temperature	No data available
Flammability	No data available
Vapour pressure	No data available
Relative density	No data available
Density	No data available
Solubility	No data available
Partition coefficient n-octanol/water (Log Pow)	No data available
Explosive properties	Risk of explosion by shock, friction, fire or other sources of ignition.
Explosive limits	No data available
Minimum ignition energy	No data available
Fat solubility	No data 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

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

Graphite (7782-42-5)	
LD50 oral rat	> 2000 mg/kg (OECD 423)
LC50 Inhalation - Rat	> 2000 mg/m ³ (4h; OECD 403)
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 sensitisation	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)
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

According to the National Code of Practice for the Preparation of Material Safety Data Sheets, Environmental classification information is not mandatory. Information relevant for GHS classification is available on request

12.1. Ecotoxicity

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)
Other information	Do not allow battery packs to penetrate the soil. The battery cell may corrode and electrolyte may leak.

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Graphite (7782-42-5)	
LC50 - Fish [1]	> 100 mg/l (96h; Danio rerio; OECD 203)
EC50 - Crustacea [1]	> 100 mg/l (48h; Daphnia magna; OECD 202)

12.2. Persistence and degradability

Graphite (7782-42-5)	
Not rapidly degradable	

12.3. Bioaccumulative potential

No additional information available

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.

SECTION 13: Disposal considerations

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	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No

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ADR	IMDG	IATA	RID
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
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. Safety, health and environmental regulations specific for the product in question

No additional information available

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15.2. International agreements

No additional information available

SECTION 16: Other information

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

Data sources

Abbreviations and acronyms

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

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

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

Revision date

05/04/2023

Classification

Not classified

SDS AU 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.