January 2019

TECHNICAL DATA SHEET

Lithium Ion Battery

The Lithium Ion Battery is a professional, rechargeable battery, suitable for our BCD 540 Knot Filler Battery Gun. The Lithium Ion Battery is available as a 2.0A or 5.0A battery. The Lithium Ion Battery 18V 2.0A is inclusive in the BCD540 Knot Filler Battery gun package and BCD540 Wood Repair Pro Kit Battery. The Lithium Ion Battery gives you approximately 100-120 minutes active working time with the BCD540 Knot Filler Battery Gun.

TOOL SPECIFICATIONS

* Colour	Black and green
* Weight	800g
* Operating voltage	18V / 50Hz
* Operating temperature	170°C
* Operating time.....	100-120 min.
* Type	Rechargeable

IMPORTANT INFO

* Do not drop the battery on a hard surface
* Do not expose the battery to water or other liquids
* The battery may only be charged at room temperature between 10°C and 40°C.

RELATED TOOLS

* Charger for Lithium-Ion battery, 100-240V 50/60Hz 85W
* BCD540 Knot Filler Battery Gun

BCD540 Knot Filler Battery Gun instruction guidelines:

Wood Repair by Boegh Consult A/S
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SAFETY DATA SHEET

Lithium Ion Battery

Issued: January 2019

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY

1.1 Product identifier

Product name: Lithium Ion Battery

1.2 Relevant information of the substance/mixture and uses advised against

Recommended use: Rechargeable battery for the BCD540 Knot Filler Battery Gun

Uses advised against:

a) Do not dismantle, open or shred secondary cells or batteries.
b) Do not expose cells or batteries to heat or fire. Avoid storage in direct sunlight.
c) Do not short-circuit a cell or a battery. Do not store cells or batteries haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.
d) Do not remove a cell or battery from its original packaging until required for use.
e) Do not subject cells or batteries to mechanical shock.
f) In the event of a cell leaking, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with copious amounts of water and seek medical advice.
g) Do not use any charger other than that specifically provided for use with the equipment.
h) Observe the plus (+) and minus (–) marks on the cell, battery and equipment and ensure correct use.
i) Do not use any cell or battery which is not designed for use with the equipment.
j) Do not mix cells of different manufacture, capacity, size or type within a device.
k) Battery usage by children should be supervised.
l) Seek medical advice immediately if a cell or a battery has been swallowed.
m) Always purchase the battery recommended by the device manufacturer for the equipment.
n) Keep cells and batteries clean and dry.
o) Wipe the cell or battery terminals with a clean dry cloth if they become dirty.
p) Secondary cells and batteries need to be charged before use. Always use the correct charger and refer to the manufacturer's instructions or equipment manual for proper charging instructions.
q) Do not leave a battery on prolonged charge when not in use.
r) After extended periods of storage, it may be necessary to charge and discharge the cells or batteries several times to obtain maximum performance.
s) Retain the original product literature for future reference.
t) Use only the cell or battery in the application for which it was intended.
u) When possible, remove the battery from the equipment when not in use.
v) Dispose of properly.

1.3 Details of the supplier of the Safety Data Sheet

Supplier: Wood Repair by Boegh Consult A/S

Charles Lindberghs Vej 6
DK-9430 Vadum, Denmark
Tel: +45-9827 1919
Mail: info@woodrepair.dk
Contact person: Susanne Bøgh

1.4 Emergency telephone number

24H Emergency phone: (Europe) 112, (Usa, Canada etc.) 911

2. HAZARDS IDENTIFICATION

2.1 Classifications of the product

No harm at the normal use. If contact with the Electrolyte liquid in the Rechargeable Lithium Ion Battery, see point 2.2.

2.2 Classification according to GHS

Acute toxicity, oral (hazard category 4)
Acute toxicity, dermal (hazard category 3)
Skin, irritate (category 1B)
Eye, irritate (hazard category 1)

GHS label elements, including precautionary statements:

GHS02

GHS05

GHS06

Signal word: warning

Hazard statements:

H242:	Heating may cause a fire
H311:	Toxic in contact with skin
H314:	Causes severe skin burns and eye damage
H302:	Harmful if swallowed

Precautionary statement:

P246:	Wash thoroughly after handling
P270:	Do not eat, drink or smoke when using this product
P280:	Wear protective gloves/protect clothing/eye protection/face protection

Response:

P312:	Call a Poison center or doctor/physician if you fell unwell
P302+P350+IF ON SKIN:	Gently wash with plenty of soap and water
P301+P330+P331-IF SWALLOWED:	Rise mouth. Do NOT induce vomiting
P305+P351+P338 IF IN EYES:	Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing.

Storage: None

Disposal:

P501: Dispose of contents/container in accordance with local/national regulations

2.3 Other information/dangers:

HNOC: No applicable

3. GENERAL INFORMATION

3.1/2 Ingredients/mixture

Chemical name: Mixtures

Common chemical name	Concentration (%)	CAS Number	EC No.
Lithium Cobalt Oxide (LiCoO2)	45	12190-79-3	235-362-0
SuperLI	1	N/A	-
S-O	0.5	N/A	-
Aluminum Foil (AI)	8.0	7429-90-5	231-072-3
Poly Vnylidene Fluoride PVDF (-[-CH2-CF-]-n)	1.4	24937-79-9	-
Graphite (C)	23.0	7782-42-5	231-955-3
Copper Foil (Cu)	4.0	7440-50-8	-
Styrene-Butadiene polymer	0.5	9003-55-8	-
Polyethylene	0.1	9002-88-4	200-815-3
Polypropylene	0.2	9003-07-0	-
Phosphate(-1), hexafluoro, lithium	16	21324-40-3	244-334-7
Ethylene carbonate	0.3	93-49-1	202-501-0

3.3 Other information

The full text of all H-danger sentences is shown in section 2 & 16. Exposure limits shown in section 8.

CAS number is Chemical Abstract Service Registry Number
N/A: not applicable

4. SAFETY AND FIRST AID MEASURES

4.1 Description of first aid measures

In general: Burn hazards when melted (according to our knowledge the fumes coming from the material when applied do not show any danger).

Inhalation: Seek fresh air if you feel discomfort. See a doctor if you continue to feel discomfort.

Skin contact: Remove contaminated clothing and shoes. Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Eye contact: Rinse with plenty of cold water immediately, also under eyelids. See an ophthalmologist and continue rinsing during transport.

Ingestion: Do not induce vomiting. Drink plenty of water. If symptoms persist call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

No information available

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: Treat symptomatically

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Extinguish media: CO2, dry chemical powder, water spray

5.2 Special hazards arising from the substance/mixture

Specific dangers: Formation of toxic gasses is possible during heating or in case of fire. In case of fire, the following can be released: Carbon Monoxide (CO), Carbon dioxide, other irritating and toxic gasses.

Hazardous combustion products: Carbon oxides.

Expolosion data:
Sensitivity to mechanical impact: No
Sensitivity to Static Discharge: No

Special hazards: Battery may burst and release hazardus decomposition products when exposed to a fire situation. Lithium ion batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperature (>150°C), hwne damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in clothes proximity.

5.3 Advice for firefighters

Protection: Use protection clothes and self-contained breathing apparatus (SCBA). As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. For example: Wear self-contained respiratory protective device. Wear suitable protective clothing and eye/face protection.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Protection person: See section 8

6.2 Environmental precautions

Environment: Prevent any material from entering drains or waterways.

6.3 Methods and material for containment and cleaning up

Cleaning methods: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Gather spillage into waste drums or plastic bags.
Use personal protective equipment: Dam up. Cover liquid spill with sand, earth or other non-combustible absorbent material. Pick up and transfer to properly labelled containers. Clean contaminated surface thoroughly.

6.4 Reference to other sections

See section 8 and 13

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling: Handle in accordance with food industrial hygiene and safety practice. Avoid eye contact with skin, eyes and clothing. Wear personal protective equipment. Wash thoroughly after handling. Use this material with adequate ventilation. The product is not explosive.

7.2 Conditions for safe storage, including any incompatibilities

Storage: If the rechargeable lithium ion battery is subject to storage for more than 2 months, it is recommended to recharge the Lithium Ion Battery periodically.
3 months: -10°C ~+40°C, 45 to 85%RH
Long time-period storage: 0°C~+35°C
The capacity recovery rate in the delivery state (50% capacity of fully charged) after storage is assumed to be 80% or more
The voltage for a long time storage shall be 15.0V~21.0V range
Do not storage the Lithium Ion Battery haphazardly in a box or drawer where they may shirt-circuit each other or be short-circuited by other metal objects.
Keep out of reach for children
Do not expose the Lithium Ion Battery to heat or fire. Avoid storage in direct sunlight.

Do not store together with oxidizing and acidic materials
Keep ignition sources away – do not smoke
Store in cool, dry and well-ventilated place

7.3 Specific and use(s)

To be used only as specified in Technical Data Sheet plus section 1 of this SDS.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits:

Ingredients with limit values that require monitoring at the workplace	
12190-79-3 Lithium Cobalt Oxide	
TLV (USA)	0.02mg/m³
MAK (GERMANY)	0.1mg/m³

DNEL/PNEC -

8.2 Exposure controls

Tech. measures: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

General: In the event that the working process is covered by the Directive for Work with OAR code numbered products (Labour Inspectorate Directive no. 302/1993) the personal measures must be chosen accordingly. See OAR code number in the Section 2 Hazard identification.
Smoking, eating or drinking, as well as storage of tobacco, food and drinks not allowed in working area. Wash hands and other exposed areas with mild soap and water before ingestions of food and beverage or smoking, as well as at the end of work. Ensure access to eye rinsing bottle and emergency shower (relevant for melted product). Avoid contact with skin and eyes of melted product.
Ensure good ventilation systems. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal means: Personal means to be chosen in accordance with current CEN standards and in cooperation with the supplier of personal means.

Inhalation: Ensure process ventilation of working area.

Hand: We recommend use of non-fusible gloves.

Skin: Standard non-fusible working clothes.

Eye: Use protection goggles if risk of contact with melted product. EN 166

Skin: Standard non-fusible working clothes.

Environment: Prevent any material from entering drains or waterways. See section 6

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Form: Prismatic
	Color: Black
	Odour: Odourless
	Odour threshold: no information available

Change in condition:	
pH, with indication of the concentration	Not determined
Melting point/freezing point	Not determined
Initial boiling point and boiling range	Not determined
Flash point	Not determined
Ecaporation rate	Not determined
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	Not determined
Vapor pressure	Not determined
Vapor density	Not determined
Relative density	Not determined
Solubility in water	Not determined
Solubility in other solvents	Not determined
n-octanol/water partition coefficient	Not determined
Auto-ignition temperature	Product is not self-igniting
Decomposition temperature	Not determined
Odour threshold	Not determined
Evaporation rate	Not determined
Viscosity	Not determined
Other information	No further relevant information available

10. STABILITY AND REACTIVITY

10.1 Reactivity Stable under recommended storage (see section 7)
10.2 Chemical stability The product is stable if handled as described in Section 7.
10.3 Possibility of hazardous reactions None known under normal processing

10.4 Conditions to avoid Strong heating, fire, incompatible materials

10.5 Incompatible materials Strong oxidizing agents. Strong acids. Base metals.

10.6 Hazardous decomposition prod. Carbon oxides, other irritating and toxic gasses.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity: No data available

LD/LC50 values relevant for classification:
Not available.

Skin corrosion/-irritation: No irritating effect

Serious eye damage/-irritation: Cause serious eye irritation

Respiratory or skin sensitisation: No sensitizing effects known

Specific target organ system toxicity: No information available

Germ cell mutagenicity No information available

Carcinogenicity No information available

Reproductive toxicity No information available

STOT-single exposure Not classified

STOT repeated exposure Not classified

Aspiration hazard Not classified

Long-term effects:	Not classified.
Other information	Avoid inhalation of fumes from melted product. However, no hazards of inhalation have been registered.

12. EXOLOGICAL INFORMATION

12.1 Toxicity	No further information available
12.2 Persistence and degradability	No information available
12.3 Bioaccumulative potential	No information available
12.4 Mobility in soil	No information available.
12.5 Results of PBT and vPvB assessment	Not applicable
12.6 Other adverse effects	No information available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Do not dispose together with household garbage.
Gather residues into waste containers. Destroy according to the rules given by the local/national authorities.
Do not allow product to reach sewage system

14. TRANSPORT INFORMATION

The Rechargeable Lithium Ion Battery had been tested according to the requirements of the UN manual of tests and Criteria, Part III, subsection 38.3;

The Rechargeable Lithium Ion Battery with a Watt-hour rating not exceeding 100Wh or the cell with a Watt-hour rating in not exceeding of 20Wh, The lithium ion batteries according to Section II/Section IB of PACKING INSTRUCTION 965, or Section II of PACKING INSTRUCTION 966～967 of the 2017 Dangerous Goods regulations 58th Edition may be transported.

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking. The materials and pack design shall be chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of moisture.

According to the Packing Instruction of IATA DGR 58th Edition for transportation.

Meets requirements of International Maritime Dangerous Goods(IMDG)-2014 Special Provision 188 to be transported as non-dangerous goods;

Meets the requirements of 49CFR173.185 to be transported as non-dangerous goods for road, rail, air, and vessel.

Meets the requirements of TDG special provision 34 to be transported as non-dangerous goods.

The package must be handled with care and that a flammability hazard exists if the package is damaged;

UN number of lithium battery: UN3480 or UN3481;

UN Proper shipping name/Description (technical name): Lithium ion batteries or Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment;

UN Classification (Transport hazard class): Non dangerous;

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulatory information:

CAS No.	EU (EINECS)	**US (TSCA)**	**Japan (ENCS)**	**Canada (DSL/ NDSL)**	**Austrlia (AICS)**	**Korea (ECL)**	**China (IECSC)**
12190-79-3	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
7429-90-5	Listed	Listed	Listed	DSL	Listed	Listed	Listed
24937-79-9	Listed	Listed	Listed	DSL	Listed	Listed	Listed
7782-42-5	Not listed	Listed	Not listed	DSL	Listed	Listed	Listed
7440-50-8	Not listed	Listed	Not listed	DSL	Listed	Listed	Listed
9003-55-8	Listed	Listed	Listed	DSL	Listed	Listed	Listed
9002-88-4	Listed	Not listed	Not listed	Not listed	Not listed	Not listed	Listed
9003-07-0	Listed	Listed	Not listed	NDSL	Not listed	Not listed	Not listed
21324-40-3	Not listed	Listed	Not listed	DSL	Listed	Listed	Listed
96-49-1	Not listed	Listed	Not listed	DSL	Listed	Listed	Listed

Ministry of the environment Directive o. 1075 dated 24th November 2011 on classification, packing, labelling, sale and storage of chemical substances and products.
Labour Inspectorate (LI) Directive no. 292 dated April 26th 2001 on Work with substances and material (chemical agents) with changes.
Directive no. 559 dated July 4th 2002 on Specific obligations for producers, suppliers and importers of substances and material in accordance with the Working Environment Act.
LI-Directive no. 507 dated 17th May 2011, with changes.
LI-Guidance 1134-2011 on Exposure limits for substances and materials.
LI-Directive no. 908 dated 27th September 2005 on Measures to prevent risk of Cancer working with substances and material, with changes.
LI- Directive no. 239 dated April 6th 2005 on Youth workers, with changes.
LI-Guidance no. 1309 dated 18th December 2012 on waste disposal.
Defence Ministry Direction no. 17 dated 4th January 2010 on flammable liquids.
LI-Directive no. 301 dated May 13th 1993 on clarification of OAR Code numbers.
Directive no. 48 dated January 13th 2010 on Waste disposal.
EC Directive 1272/2008 (CLP), EC Directive 453/2010 (Update CLP)
EC Directive 1907/2006 (REACH)
EC Directive 2010/75 (VOC)

Further information: OAR code (1993) 00-3

15.2 Chemical safety assessment

No chemical safety assessment has not been carried out.

16. OTHER INFORMATION

16.1 Full wording of H-sentences in section 2:

R20/22: Harmful by inhalation and if swallowed
R36: Irritating to eyes

H302:	Harmful if swallowed
H332:	Harmful if inhaled

Personnel to be instructed in correct use of the product. Personnel must read this Safety Data Sheet before using the product including the Technical Data Sheet.

To the best of our knowledge the information given herewith is accurate. However, no liability what so ever is assumed for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein we cannot guarantee that these are the only hazards that exist.

Issued by:
Susanne Bøgh