Safety Data Sheet

BAL50xxB29xxxxx

Replaces date: 16/01/2025

Revision date: 11/08/2025
Version: 2.0.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name: BAL50xxB29xxxxx

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended uses: Lithium ion rechargeable battery.
During normal use and handling the hazardous materials are fully contained inside the battery cell.

1.3. Details of the supplier of the safety data sheet

Supplier

Company:	LINAK A/S
Address:	Smedevænget 8, Guderup
Zip code:	6430
City:	Nordborg
Country:	DENMARK
Email:	lks@linak.com
Phone:	+45 73 15 15 15

1.4. Emergency Telephone Number

+45 73 15 15 15 (LINAK A/S)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

CLP-classification: The product shall not be classified as hazardous according to the classification and labeling rules for substances and mixtures.

Most serious harmful effects: According to REACH, the product is an article and is consequently not subject to the requirement for a safety data sheet. The intact article does not pose any danger. This safety data sheet describes the danger of the mixture inside the article. Contact is only possible if the article is not intact. The mixture inside the article has the following hazardous characteristics:
The leaking electrolyte is corrosive. Causes severe skin burns and eye damage. Toxic if swallowed.

2.2. Label elements

The product shall not be classified as hazardous according to the classification and labeling rules for substances and mixtures.

Supplemental information

According to REACH the product is an article and thus not subject to the requirements regarding labelling.

2.3. Other hazards

Assessment to determine PBT and vPvB has not been made.
Endocrine disrupting properties: None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Substance	CAS No./ EC No./ REACH Reg. No.	Concentration	Notes	CLP-classification
Nickel compound (proprietary)		0 - 80 %		
Graphite	7440-44-0 213-153-3	10 - 30 %		
dimethyl carbonate	616-38-6 210-478-4	10 - 20 %		Flam. Liq. 2;H225
Lithium hexafluorophosphate	21324-40-3 244-334-7	10 - 20 %		Acute Tox. 3;H301 Skin Corr. 1A;H314 Eye Dam. 1;H318 STOT RE 1;H372
Ethylene carbonate	96-49-1 202-510-0	10 - 20 %		Acute Tox. 4;H302 Eye Irrit. 2;H319 STOT RE 2;H373
Manganese compound (proprietary)		0 - 15 %		
Cobalt compound (proprietary)		0 - 15 %		
Copper	7440-50-8 231-159-6	2 - 10 %		
Aluminium	7429-90-5 231-072-3	2 - 10 %		
Polyvinylidenefluoride (PVDF)	24937-79-9 607-458-6	< 5 %		
Rubber, butadiene-styrene	61789-96-6 612-382-1	< 1 %		
nickel	7440-02-0 231-111-4	~ %		Skin Sens. 1;H317 Carc. 2;H351 STOT RE 1;H372
Steel	12597-69-2 603-109-7	~ %		
Inert materials		~ %		

Please see section 16 for the full text of H- / EUH-phrases.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation: In case of leaking battery: Seek fresh air. Seek medical advice in case of persistent discomfort.

Ingestion: In case of leaking battery: Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Skin contact: In case of leaking battery: Remove contaminated clothing. Wash skin with soap and water. Immediately call a POISON CENTER or doctor/physician.

Eye contact: In case of leaking battery: Open eye wide, remove any contact lenses and flush immediately with water (preferably using eye wash equipment). Seek medical advice immediately. Continue flushing until medical attention is obtained.

Burns: Flush with water until pain ceases. Remove clothing that is not stuck to the skin - seek medical advice/transport to hospital. If possible, continue flushing until medical attention is obtained.

General: When obtaining medical advice, show the safety data sheet or label.

4.2. Most important symptoms and effects, both acute and delayed

In case of leaking battery: Ingestion may cause caustic burning in mouth, aesophagus and stomach. Pains in mouth, throat and

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stomach. Difficulty swallowing, feeling unwell and vomiting of blood. Brown spots and burns may appear in and around the mouth. Has a caustic burning effect and causes burning pain, reddening, blistering and burning sores if it comes in contact with skin. Eye contact may result in deep caustic burns, pain, tearing and cramping of the eyelids. Risk of serious eye injury and loss of sight. Toxic if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptoms. Ensure that medical personnel are aware of the material involved, and take precautions to protect themselves.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Metal fire extinction powder, rock salt or dry sand shall be used. In case only water is available, it can be used in large amounts.

Unsuitable extinguishing media: Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Exposure to high temperatures (>125 °C), electrical or mechanical abuse can cause venting of the liquid electrolyte. The product decomposes when combusted and the following toxic gases can be formed: Carbon monoxide and carbon dioxide/ Hydrogen fluoride.

5.3. Advice for firefighters

Extinguishing water which has been in contact with the product may be corrosive. Move containers from danger area if it can be done without risk. Avoid inhalation of vapour and flue gases - seek fresh air. Wear Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit but gas-tight suit when close proximity to the substance or its vapours is likely. Wear gloves.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: In case of leaking battery: Wear gloves. Wear safety goggles/face protection. Smoking and naked flames prohibited.

For emergency responders: In addition to the above: Chemical protective suit equivalent to EN 943-2 is recommended.

6.2. Environmental precautions

Prevent spillage from entering drains and/or surface water.

6.3. Methods and material for containment and cleaning up

Contain and absorb spill with sand or other absorbent, non-combustible material and transfer to suitable waste containers. Caution! Causes burns. Rinse with water.

6.4. Reference to other sections

See section 8 for type of protective equipment. See section 13 for instructions on disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Smoking and naked flames prohibited. Running water and eye wash equipment should be available. Wash hands before breaks, before using restroom facilities, and at the end of work.

7.2. Conditions for safe storage, including any incompatibilities

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The product should be stored safely out of reach of children and not together with food, feed, medicine and the like. Store in a dry, cool, well-ventilated area. Avoid high temperatures, electrical or mechanical abuse. Keep away from sources of ignition. Do not short circuit the battery.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit: Not applicable. During normal use and handling the hazardous materials are fully contained inside the battery cell.

Measuring methods: Compliance with occupational exposure limits may be checked by occupational hygiene measurements.

Legal basis: Commission Directive 2000/39/EC (Occupational Exposure Limits) as subsequently amended. Last amended by Commission Directive 2019/1831/EU. Directive 2004/37/EC (Exposure to carcinogens or mutagens at work) as subsequently amended. Last amended by Directive 2022/431/EU. Directive 2009/148/EC (Exposure to asbestos at work) as subsequently amended. Last amended by Directive 2023/2668/EU.

8.2. Exposure controls

Appropriate engineering controls: Wear the personal protective equipment specified below.

Personal protective equipment, eye/face protection: In case of leaking battery: Wear safety goggles/face protection. Eye protection must conform to EN 16321.

Personal protective equipment, hand protection: In case of leaking battery: Wear gloves. Type of material: Latex/ Neoprene rubber. Gloves must conform to EN 374.

Personal protective equipment, respiratory protection: Not required.

Environmental exposure controls: Ensure compliance with local regulations for emissions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Parameter	Value/unit
State	Battery
Colour	No data
Odour	No data
Solubility	Insoluble

Parameter	Value/unit	Remarks
Odour threshold	No data	
Melting point	No data	
Freezing point	No data	
Boiling point or initial boiling point and boiling range	No data	
Flammability	No data	
Flammability limits	No data	
Lower and upper explosion limit	No data	
Flash Point	No data	

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Auto-ignition temperature	No data	
Decomposition temperature	No data	
pH (solution for use)	No data	
pH (concentrate)	No data	
Kinematic viscosity	No data	
Viscosity	No data	
Partition coefficient n-octanol/water (log value)	No data	
Vapour pressure	No data	
Density	No data	
relative density	No data	
Relative vapour density	No data	
Relative density (sat. air)	No data	
Particle characteristics	No data	

9.2. Other information

Other Information: Nominal capacity: 2,85 Ah
Nominal energy: 73 Wh

SECTION 10: Stability and reactivity

10.1. Reactivity

Not reactive.

10.2. Chemical stability

The battery is hermetically sealed. The battery is stable under normal conditions. Exposure to high temperatures can cause venting of the liquid electrolyte and/or heat generation and ignition. Internal shorting or mechanical abuse could also cause venting of the electrolyte.

10.3. Possibility of hazardous reactions

In contact with water releases hydrogen.

10.4. Conditions to avoid

Avoid heating and contact with ignition sources. Avoid direct sunlight. Avoid temperatures >125°C.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

The product decomposes when combusted or heated to high temperatures and the following toxic gases can be formed: Carbon monoxide and carbon dioxide/ Hydrogen fluoride.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity - oral: The product does not have to be classified. In case of leaking battery: Toxic if swallowed.

Acute toxicity - dermal: The product does not have to be classified.

Acute toxicity - inhalation: The product does not have to be classified.

Skin corrosion/irritation: The product does not have to be classified. In case of leaking battery: Has a caustic burning effect and causes burning pain, reddening, blistering and burning sores if it comes in contact with skin.

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Serious eye damage/eye irritation:	The product does not have to be classified. In case of leaking battery: Eye contact may result in deep caustic burns, pain, tearing and cramping of the eyelids. Risk of serious eye injury and loss of sight.
Respiratory sensitisation or skin sensitisation:	The product does not have to be classified.
Germ cell mutagenicity:	The product does not have to be classified.
Carcinogenic properties:	The product does not have to be classified.
Reproductive toxicity:	The product does not have to be classified.
Single STOT exposure:	The product does not have to be classified. In case of leaking battery: Inhalation of vapours may cause irritation to the upper airways.
Repeated STOT exposure:	The product does not have to be classified.
Aspiration hazard:	The product does not have to be classified.

11.2. Information on other hazards

Endocrine disrupting properties:	None known.
Other toxicological effects:	In case of leaking battery: Ingestion may cause caustic burning in mouth, aesophagus and stomach. Pains in mouth, throat and stomach. Difficulty swallowing, feeling unwell and vomiting of blood. Brown spots and burns may appear in and around the mouth.

SECTION 12: Ecological information

12.1. Toxicity

The product does not have to be classified.

12.2. Persistence and degradability

Test data are not available.

12.3. Bioaccumulative potential

Test data are not available.

12.4. Mobility in soil

Test data are not available.

12.5. Results of PBT and vPvB assessment

No assessment has been made.

12.6. Endocrine disrupting properties

None known.

12.7. Other adverse effects

None known.

SECTION 13: Disposal considerations

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13.1. Waste treatment methods

Avoid discharge to drain or surface water. If this product as supplied becomes a waste, it meets the criteria of a hazardous waste (Dir. 2008/98/EU). Collect spills and waste in closed, leak-proof containers for disposal at the local hazardous waste site.

Category of waste: EWC code: Depends on line of business and use, for instance
Product: 16 06 05 other batteries and accumulators

Absorbent/cloth contaminated with the product: EWC code: Depends on line of business and use, for instance 15 02 02* absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	3480	**14.4. Packing group:**	
14.2. UN proper shipping name:	LITHIUM ION BATTERIES	**14.5. Environmental hazards:**	The product should not be labelled as an environmental hazard (symbol: fish and tree).
14.3. Transport hazard class(es):	9		
Hazard label(s):	LITH		
Hazard identification number:		**Tunnel restriction code:**	
Other Information:	The battery meets the required special provisions 188, so that it is not to be transported as fully regulated dangerous goods. Special Provisions: 188, 230, 310, 348, 376, 377, 387, 636, 677 Packing Instructions: P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906		

Inland water ways transport (ADN)

14.1. UN number or ID number:	3480	**14.4. Packing group:**	
14.2. UN proper shipping name:	LITHIUM ION BATTERIES	**14.5. Environmental hazards:**	The product should not be labelled as an environmental hazard (symbol: fish and tree).
14.3. Transport hazard class(es):	9		
Hazard label(s):	LITH		
Transport in tank vessels:	Not applicable.	**Other Information:**	The battery meets the required special provisions 188, so that it is not to be transported as fully regulated dangerous goods. Special Provisions: 188, 230, 310, 348, 376, 377, 387, 636, 677 Packing Instructions: P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906

Sea transport (IMDG)

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14.1. UN number or ID number:	3480	**14.4. Packing group:**	
14.2. UN proper shipping name:	LITHIUM ION BATTERIES	**14.5. Environmental hazards:**	The product is not a Marine Pollutant (MP).
14.3. Transport hazard class(es):	9	**Environmental Hazardous Substance Name(s):**	
Hazard label(s):	LITH		
EmS:	F-A, S-I	**IMDG Code segregation group:**	- None -
Other Information:	The battery meets the required special provisions 188, so that it is not to be transported as fully regulated dangerous goods. Special Provisions: 188, 230, 310, 348, 376, 377, 384, 387 Packing Instructions: P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906		

Air transport (ICAO-TI / IATA-DGR)

14.1. UN number or ID number:	3480	**14.4. Packing group:**	
14.2. UN proper shipping name:	LITHIUM ION BATTERIES	**14.5. Environmental hazards:**	The product should not be labelled as an environmental hazard (symbol: fish and tree).
14.3. Transport hazard class(es):	9		
Hazard label(s):	9A+LITH	**Other Information:**	Special Provisions: A88, A99, A154, A183, A201, A213, A331, A334, A802 Packing Instructions: 965

14.6. Special precautions for user

None.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15: Regulatory information

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

Special Provisions: None known.

15.2. Chemical Safety Assessment

Other Information: Chemical safety assessment has not been performed.

SECTION 16: Other information

Version history and indication of changes

Version	Revision date	Responsible	Changes
2.0.0	11/08/2025	JST	8,14,15,16

Abbreviations: PBT: Persistent, Bioaccumulative and Toxic
vPvB: Very Persistent and Very Bioaccumulative
STOT: Specific Target Organ Toxicity

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Other Information: This safety data sheet has been prepared for and applies to this product only. It is based on our current knowledge and the information that the supplier was able to provide about the product at the time of preparation. The safety data sheet complies with applicable law on preparation of safety data sheets in accordance with 1907/2006/EC (REACH) as subsequently changed.

Training advice: A thorough knowledge of this safety data sheet should be a prerequisite condition.

Classification method: Calculation based on the hazards of the known components.

Hazard statements

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.

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