

Safety Data Sheet

55944354 - ACE Li-ion battery Assembly / 55947943 - BATTERY LI-ION 25.6V 50Ah ACE

Issued: 13/06/2024
Version: 1.0.0

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

1.1. Product identifier

Trade name: 55944354 - ACE Li-ion battery Assembly / 55947943 - BATTERY LI-ION 25.6V 50Ah ACE

Other Information: Articles covered by this safety data sheet are shown in the attached list.

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: Nilfisk A/S
Address: Marmorvej 8
Zip code: 2100
City: København Ø
Country: DENMARK
E-mail: sds.com@nilfisk.com
Phone: +45 43 23 81 00

1.4. Emergency Telephone Number

Members of the public: 111 (NHS 111 (Scotland: NHS 24)).

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 substance and mixtures.

Most serious harmful effects: According to UK 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 substance and mixtures.

Supplemental information

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

2.3. Other hazards

Endocrine disrupting properties: None known.
The product does not contain any PBT or vPvB substances.

SECTION 3: Composition/information on ingredients

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3.2. Mixtures

Substance	CAS No./ EC No./ REACH Reg. No.	Concentration	Notes	CLP-classification
Lithium iron phosphate	15365-14-7 604-917-2	30 - 50 %		
Graphite	7782-42-5 231-955-3	15 - 25 %		
Copper	7440-50-8 231-159-6	5 - 10 %		
Lithium hexafluorophosphate	21324-40-3 244-334-7	1 - 5 %		Acute Tox. 3;H301 Skin Corr. 1A;H314 Eye Dam. 1;H318 STOT RE 1;H372
Aluminum	7429-90-5 231-072-3	1 - 5 %		

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, esophagus 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. 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.

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5.2. Special hazards arising from the substance or mixture

Exposures to high temperatures, electrical or mechanical abuse can cause venting of the liquid electrolyte. Product decomposes in fire conditions or when heated to high temperatures, and inflammable and toxic gases may be released.

5.3. Advice for firefighters

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. Move containers from danger area if it can be done without risk. Avoid inhalation of vapour and flue gases - seek fresh air. Extinguishing water which has been in contact with the product may be corrosive.

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

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

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

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.

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Version: 1.0.0**Legal basis:** EH40/2005 Workplace exposure limits. Last amended January 2020.

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 166/16321.**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	Characteristic
Solubility	Insoluble

Parameter	Value/unit	Remarks
Odour threshold	No data	
Melting point	No data	
Freezing point	No data	
Initial boiling point and boiling range	No data	
Flammability (solid, gas)	No data	
Flammability limits	No data	
Explosion limits	No data	
Flash Point	No data	
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	No data	
Vapour pressure	No data	
Density	No data	
Relative density	No data	
Vapour density	No data	
Relative density (sat. air)	No data	
Particle characteristics	No data	

9.2. Other information

Other Information: Nominal capacity 50 Ah
Nominal energy 1280 Wh
Nominal voltage 25,6 V

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SECTION 10: Stability and reactivity

10.1. Reactivity

In case of leaking battery: Alkalies/ Acids/ Water.

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 >70°C. Avoid contact with moisture and water.

10.5. Incompatible materials

In case of leaking battery: Alkalies/ Acids/ Water.

10.6. Hazardous decomposition products

Product decomposes in fire conditions or when heated to high temperatures, and inflammable and toxic gases may be released.

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.
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.

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Version: 1.0.0**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, esophagus 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

The product does not contain any PBT or vPvB substances.

12.6. Endocrine disrupting properties

None known.

12.7. Other adverse effects

None known.

SECTION 13: Disposal considerations

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: Product: 16 06 05 other batteries and accumulators
Absorbent/cloth contaminated with the product: 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**14.2. UN proper shipping name:** LITHIUM ION BATTERIES**14.4. Packing group:****14.5. Environmental hazards:**

The product should not be labelled as an environmental hazard (symbol: fish and tree).

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class(es): 9

Hazard label(s): 9A

Hazard identification number:

Tunnel restriction code: E

Inland water ways transport (ADN)

14.1. UN number or ID number: 3480

14.2. UN proper shipping
name: LITHIUM ION BATTERIES

14.4. Packing group:

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

Transport in tank vessels:

Sea transport (IMDG)

14.1. UN number or ID number: 3480

14.2. UN proper shipping
name: LITHIUM ION BATTERIES14.3. Transport hazard
class(es): 9

Hazard label(s): 9A

EmS: F-A, S-I

14.4. Packing group:

14.5. Environmental
hazards:
Environmental Hazardous
Substance Name(s):The product is not a Marine
Pollutant (MP).IMDG Code segregation
group: - None -

Air transport (ICAO-TI / IATA-DGR)

14.1. UN number or ID number: 3480

14.2. UN proper shipping
name: LITHIUM ION BATTERIES14.3. Transport hazard
class(es): 9

Hazard label(s): 9A

14.4. Packing group:

14.5. Environmental
hazards:The product should not be
labelled as an
environmental hazard
(symbol: fish and tree).

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
1.0.0	13/06/2024	JST	

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

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 Regulation 1907/2006/EC "The Registration, Evaluation and Authorization of Chemicals" as amended by the stationary UK REACH etc. (EU Exit) 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

H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H372 Causes damage to organs through prolonged or repeated exposure.

SDS is prepared by

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Country: GB

Appendix to Safety Data Sheet				NILFISK	
SC550 BATTERY PACK					
Revision's date:	10-12-2024	Version:	1.0	Language	EN
Replaces date:	10-12-2024	Version:	1.0		
Author:	Lars Thorlaksen, Packaging Engineer / DGSA			Pages:	2

This document, only available in English, is an appendix to "Safety Data Sheet for BATTERY FOR 55944354 - ACE Li-ion battery Assembly / 55947943 - BATTERY LI-ION 25.6V 50Ah ACE.

The document lists the different configurations the SC550 BATTERY PACK (Lithium-Ion) can be included in.

Specifications for HazMat shipping condition can be found in section 4 of this document.

Section 1. Batteries and their specifications							
Nilfisk item #	Description	Weight	Rated Voltage	Rated Capacity	Rated Energy	VBK #	HazMat Shipping Condition
55947943	BATTERY LI-ION 25.6V 50Ah ACE	11000 g	25,6V	50 Ah	1280Wh		1
55944354	ACE Li-ion battery Assembly	11000 g	25,6V	50 Ah	1280Wh		1

Section 2. Machines / Packages where above batteries can be included				
Nilfisk item #	Description	Battery (or kit) incl.	Qty battery / Kit incl.	HazMat Shipping Condition
55945038	LITHIUM-ION EXPANSION KIT	55947943	1	1
55945439	Battery system assembly	55947943	1	1
55944355	ACE Li-ion Dual battery Assembly	55947943	2	1
50000651	SC550 D 61 LI-ION EU/UK FULL PKG	55947943	1	3
50000655	SC550 CYL 51 LI-ION EU/UK FULL PKG	55947943	1	3
50000656	SC550 D 53 LI-ION EU/UK FULL PKG	55947943	1	3
50000658	SC550 R 51 LI-ION EU/UK FULL PKG	55947943	1	3
50000666	SC550 D 53 LI-ION EU/UK	55947943	1	3
50000667	SC550 R 51 LI-ION EU/UK	55947943	1	3
50000668	SC550 D 61 LI-ION EU/UK	55947943	1	3
50000669	SC550 CYL 51 LI-ION EU/UK	55947943	1	3
50000670	SC550 D 20 LI-ION US	55947943	1	3
50000671	SC550 R 20 LI-ION US	55947943	1	3
50000672	SC550 D 24 LI-ION US	55947943	1	3
50000673	SC550 CYL 20 LI-ION US	55947943	1	3
50000664	SC401 43 B FP LI-ION EU/UK	55947943	1	3
50000665	SC401 43 BD FP LI-ION EU/UK	55947943	1	3

Section 3. Other occurrences
The majority of the Nilfisk floor-care machine portfolio, can be equipped with the Nilfisk Lithium-Ion Battery. For any machine defined as a vehicle (ride-on / stand on), the shipping condition will be shipping condition 4. For non-vehicles, meaning equipment, where batteries are included, the shipping condition will be 2 or 3.

Section 4. HazMat Shipping Condition Specification	
1	UN3480, LITHIUM-ION BATTERIES
2	UN3481, LITHIUM-ION BATTERIES PACKED WITH EQUIPMENT
3	UN3481, LITHIUM-ION BATTERIES CONTAINED IN EQUIPMENT

Appendix to Safety Data Sheet				NILFISK	
SC550 BATTERY PACK					
Revision's date:	10-12-2024	Version:	1.0	Language	EN
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Author:	Lars Thorlaksen, Packaging Engineer / DGSA			Pages:	2

4	UN3171, BATTERY-POWERED VEHICLE
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