

# Safety Data Sheet

## Nilfisk 36V Li-ion Battery Pack

### SECTION 1: Identification of the substance/preparation and of the company/undertaking

#### 1.1. Product identifier

**Trade name:** Nilfisk 36V Li-ion Battery Pack

#### Article no

Article no	Description
107408866	BATTERY PACK 36 VOLT 10S4P
107408866-X	BATTERY PACK 36 VOLT 10S4P
107415230	GD5 BATTERY COMMON MACHINE
107415240	GD 5 Battery CN
107417384	VP600 BATTERY U
107417387	VP600 BATTERY COMMON MACHINE
107417388	VP600 Battery CN
107417543	GD5 BATTERY US
41600820	VP600 Battery AUS/NZ
41600821	VP600 Battery EU
41600822	VP600 Battery UK/CH
41600823	VP600 Battery US
41600840	GD 5 Battery AUS/NZ
41600841	GD 5 Battery EU
41600842	GD 5 Battery UK/CH
41600843	GD 5 Battery US
41600844	GD 5 Battery PSU STD. EU/UK
41600869	BATTERY LI 36V 10S4P + VP600B BATT COVER
41600872	BATTERY LI 36V 10S4P + BATTERY HANDLE
41600874	GD 5 BATTERY HEPA US
41600875	GD 5 BATTERY EXCL. CHARGER
41600941	GD 5 BATTERY 2B EU
41600900	VP600 BATTERY - EXCL CHARGER
41600901	VP600 BATTERY 2B EU
9100002056	BATTERY LI KIT INCL CHARGER EU UK
9100002057	BATTERY LI KIT INCL CHARGER US
9100002070	BATTERY LI 36V 10S4P
9087380020	SCRUBBER SC250 34C B
9087381020	SCRUBBER SC250 13C B
9087382020	SCRUBBER SCRUBTEC 334C B
9087383020	SCRUBBER MA30 13 B

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

**Recommended uses:** Lithium Ion Battery 280,8 Wh

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

**Company:** Nilfisk A/S

**Address:** Kornmarksvej 1

**Zip code:** 2605

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**City:** Brøndby  
**Country:** DENMARK  
**E-mail:** sds.com@nilfisk.com  
**Phone:** +45 43 23 81 00

### 1.4. Emergency Telephone Number

+45 43 23 81 00 (Nilfisk A/S)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**HazCom classification:** The product shall not be classified as hazardous according to the classification and labeling rules for substance and mixtures.

**Most serious harmful effects:** 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: Inhalation of vapors may cause irritation to the upper airways. Irritating to skin - may cause reddening. Irritating to eyes. Causes a burning sensation and tearing. flammable.

### 2.2. Label elements

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

### 2.3. Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Substance	CAS number	Concentration	Notes
Metal Oxide	-	20 - 50%	
Graphite	7440-44-0	10 - 30%	
Electrolyte	-	10 - 20%	
aluminium Foil	7429-90-5	2 - 10%	
Copper	7440-50-8	2 - 10%	
Polyvinylidene Fluoride	24937-79-9	< 5%	
1,3-Butadiene-Styrene copolymer	9003-55-8	< 5%	

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**Inhalation:** Seek fresh air. Seek medical advice in case of persistent discomfort.

**Ingestion:** Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Seek medical advice in case of persistent discomfort.

**Skin contact:** Remove contaminated clothing. Wash skin with soap and water. Seek medical advice in case of persistent discomfort.

**Eye contact:** Flush with water (preferably using eye wash equipment) until irritation subsides. Seek medical advice if symptoms persist.

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**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:** Bring the safety data sheet or label when seeking medical advice.

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

Inhalation of vapors may cause irritation to the upper airways. May irritate the skin - may cause reddening. May cause eye irritation.

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

Treat symptoms. No special immediate treatment required.

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media:** Extinguish with powder or carbon dioxide.

**Unsuitable extinguishing media:** Do not use a jet of water, as it may spread the fire.

### 5.2. Special hazards arising from the substance or mixture

Can generate harmful flue gases containing carbon monoxide in the event of fire.

### 5.3. Advice for fire-fighters

Move containers from danger area if it can be done without risk. Avoid inhalation of vapor and smoke gases - seek fresh air. Wear Self-Contained Breathing Apparatus (SCBA) with chemical resistant gloves.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel:** Wear gloves. Wear safety goggles if there is a risk of eye splash. Smoking and naked flames prohibited. Take precautionary measures against static discharges. Use spark-free tools and explosion proof equipment.

**For emergency responders:** In addition to the above: Protective suit 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 spills using sand or other absorbent, non-combustible material and transfer to suitable waste containers.

### 6.4. Reference to other sections

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

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Smoking and naked flames prohibited. Wash hands before breaks, before using restroom facilities, and at the end of work. Storage temperature: -20 - 25 °C. Take precautionary measures against static discharges. Use spark-free tools and explosion proof equipment. See section 8 for type of protective equipment.

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### 7.2. Conditions for safe storage, including any incompatibilities

Store safely, out of reach of children and away from food, animal feeding stuffs, drugs, etc. Store in a dry, cool, well-ventilated area. Do not store with the following: Metals.

### 7.3. Specific end use(s)

None.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational exposure limit:** Contains no substances subject to reporting requirements

**Legal basis:** ACGIH Threshold Limit Values (TLV's) and Biological Exposure Indices (BEI's), 2016.  
OSHA 29 CFR part 1910.1000, table Z1-Z3, Limits for Air Contaminants 2006.

### 8.2. Exposure controls

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

**Personal protective equipment, eye/face protection:** Wear safety goggles if there is a risk of eye splash.

**Personal protective equipment, skin protection:** Not required.

**Personal protective equipment, hand protection:** Plastic or rubber gloves recommended.

**Personal protective equipment, respiratory protection:** Not required.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Parameter	Value/unit
State	Battery.
Colour	N/A
Odour	N/A
Solubility	N/A
Explosive properties	N/A
Oxidising properties	N/A

Parameter	Value/unit	Remarks
pH (solution for use)	No data	
pH (concentrate)	No data	
Melting point	No data	
Freezing point	No data	
Initial boiling point and boiling range	No data	
Flash Point	No data	
Evaporation rate	No data	
Flammability (solid, gas)	No data	
Flammability limits	No data	
Explosion limits	No data	
Vapour pressure	No data	
Vapour density	No data	

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Relative density	No data	
Partition coefficient n-octanol/water	No data	
Auto-ignition temperature	No data	
Decomposition temperature	No data	
Viscosity	No data	
Odour threshold	No data	

### 9.2 Other information

Parameter	Value/unit	Remarks
Weight	2500 g	
Nominal voltage	36 V	
Nominal capacity	7,8 Ah	
Nominal energy	280,8 Wh	

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Not reactive.

### 10.2. Chemical stability

The product is stable when used in accordance with the supplier's directions.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Avoid heating and contact with ignition sources. Avoid contact with moisture and water.

### 10.5. Incompatible materials

Metals.

### 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 toxicological effects

**Acute toxicity - oral:** The product does not have to be classified. Test data are not available. Ingestion of large quantities may cause discomfort.

**Acute toxicity - dermal:** The product does not have to be classified. Test data are not available.

**Acute toxicity - inhalation:** The product does not have to be classified. Test data are not available.

**Skin corrosion/irritation:** May irritate the skin - may cause reddening. The product does not have to be classified. Test data are not available.

**Serious eye damage/eye irritation:** May cause eye irritation. The product does not have to be classified. Test data are not available.

**Respiratory sensitisation or skin sensitisation:** The product does not have to be classified. Test data are not available.

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<b>Germ cell mutagenicity:</b>	The product does not have to be classified. Test data are not available.
<b>Carcinogenic properties:</b>	The product does not have to be classified. Test data are not available.
<b>Reproductive toxicity:</b>	The product does not have to be classified. Test data are not available.
<b>Single STOT exposure:</b>	The product does not have to be classified. Test data are not available.
<b>Repeated STOT exposure:</b>	The product does not have to be classified. Test data are not available.
<b>Aspiration hazard:</b>	The product does not have to be classified. Test data are not available.
<b>Other toxicological effects:</b>	Inhalation of vapors may cause irritation to the upper airways.

### SECTION 12: Ecological information

#### 12.1. Toxicity

The product does not have to be classified. Test data are not available.

#### 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. 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 as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. ID number: {0} Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

### SECTION 14: Transport information

#### Land transport (49CFR)

<b>14.1. UN-No.:</b>	UN3480	<b>14.4. Packing group:</b>
<b>14.2. UN proper shipping name:</b>	Lithium ion batteries	<b>14.5. Environmental hazards:</b>
<b>14.3. Transport hazard class(es):</b>	9	
<b>Hazard label(s):</b>	9A	

#### Sea transport (IMDG)

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<b>14.1. UN-No.:</b>	3480	<b>14.4. Packing group:</b>	
<b>14.2. UN proper shipping name:</b>	LITHIUM ION BATTERIES	<b>14.5. Environmental hazards:</b>	The product is not a Marine Pollutant (MP).
<b>14.3. Transport hazard class(es):</b>	9	<b>Environmental Hazardous Substance Name(s):</b>	
<b>Hazard label(s):</b>	9A	<b>IMDG Code segregation group:</b>	- None -
<b>EmS:</b>	F-A, S-I		
<b>Other Information:</b>	Transportation of batteries packed with equipment, may be packed as "UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT"		

### Air transport (ICAO-TI / IATA-DGR)

<b>14.1. UN-No.:</b>	3480	<b>14.4. Packing group:</b>	
<b>14.2. UN proper shipping name:</b>	LITHIUM ION BATTERIES	<b>14.5. Environmental hazards:</b>	-
<b>14.3. Transport hazard class(es):</b>	9	<b>Other Information:</b>	Transportation of batteries packed with equipment, may be packed as "UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT"
<b>Hazard label(s):</b>	9A		

### 14.6. Special precautions for user

None.

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable.

## SECTION 15: Regulatory information

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

**Special Provisions:** None.

#### SARA

**Section 311/312:** Not included

**TSCA:** All ingredients are on the inventory or exempt from listing.

**CERCLA:** None of the ingredients are on the inventory.

#### NFPA ratings

**Health hazard:** 1

**Flammability:** 1

**Instability:** 0

#### HMIS III ratings

**Health hazard:** 1\*

**\*:** \*

**Flammability:** 1

**Physical hazard:** 0

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### 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	12/27/2016	BV HSE / THS	New
1.1.0	10/4/2017	BV HSE / CGJ	1, 16
1.2.0	10/11/2017	BV HSE / MPE	1, 16
1.3.0	7/13/2018	BV HSE / MPE	1, 16

**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 CFR29, §1910.1200.

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

**Issued:** 12/27/2016

**Revision date:** 7/13/2018

**Replaces date:** 10/11/2017

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

**Quality assurance of SDS:** Bureau Veritas HSE Danmark / KDC

#### SDS is prepared by

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