

# Safety Data Sheet

## Nilfisk 36V Li-ion Battery Pack

Replaces date: 04/10/2017

Revision date: 11/10/2017

Version: 1.2.0

### 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
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
107417384	VP600 BATTERY U
107417387	VP600 BATTERY COMMON MACHINE
107417543	GD5 BATTERY US
107415230	GD5 BATTERY COMMON MACHINE
41600821	VP600 Battery EU
41600822	VP600 Battery UK/CH
41600841	GD 5 Battery EU
41600842	GD 5 Battery UK/CH
41600844	GD 5 Battery PSU STD. EU/UK
41600820	VP600 Battery AUS/NZ
41600823	VP600 Battery US
41600840	GD 5 Battery AUS/NZ
41600843	GD 5 Battery US
107415240	GD 5 Battery CN
107417388	VP600 Battery CN

#### 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  
**City:** Brøndby  
**Country:** DENMARK

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**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 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: Inhalation of vapours 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

### 2.3. Other hazards

Assessment to determine PBT and vPvB has not been made.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Substance	CAS number	EC No	REACH Reg. No.	Concentration	Notes	CLP-classification
Metal Oxide	-	-		20 - 50%		
Graphite	7440-44-0			10 - 30%		
Electrolyte	-	-		10 - 20%		
aluminium Foil	7429-90-5	231-072-3		2 - 10%		Flam. Sol. 1;H228 Water-react. 2;H261
Copper Foil	7440-50-8	-		2 - 10%		
Polyvinylidene Fluoride	24937-79-9	-		< 5%		
1,3-Butadiene-Styrene copolymer	9003-55-8	-		< 5%		

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

## 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

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case of persistent discomfort.

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

**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

Inhalation of vapours 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 water stream, 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 vapour and flue 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 equivalent to EN 368, type 3, 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.

### 6.4. Reference to other sections

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

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### 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.

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

Store safely, out of reach of children and away from food, animal feeding stuffs, medicines, 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:** EH40/2005 Workplace exposure limits. Last amended December 2011.

#### 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	

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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	
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

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<b>Acute toxicity - oral:</b>	The product does not have to be classified. Test data are not available. Ingestion of large quantities may cause discomfort.
<b>Acute toxicity - dermal:</b>	The product does not have to be classified. Test data are not available.
<b>Acute toxicity - inhalation:</b>	The product does not have to be classified. Test data are not available.
<b>Skin corrosion/irritation:</b>	May irritate the skin - may cause reddening. The product does not have to be classified. Test data are not available.
<b>Serious eye damage/eye irritation:</b>	May cause eye irritation. The product does not have to be classified. Test data are not available.
<b>Respiratory sensitisation or skin sensitisation:</b>	The product does not have to be classified. Test data are not available.
<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 vapours may cause irritation to the upper airways.

## SECTION 12: Ecological information

### 12.1. Toxicity

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

### 12.2. Persistence and degradability

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Test data are not available.

### 12.3. Bioaccumulative potential

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Test data are not available.

### 12.4. Mobility in soil

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Test data are not available.

### 12.5. Results of PBT and vPvB assessment

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No assessment has been made.

### 12.6. Other adverse effects

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None known.

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Avoid discharge to drain or surface water.

Collect spills and waste in closed, leak-proof containers for disposal at the local hazardous waste site.

**Category of waste:** 16 06 05 other batteries and accumulators

### SECTION 14: Transport information

#### Land transport (ADR/RID)

<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 should not be labelled as an environmental hazard (symbol: fish and tree).
<b>14.3. Transport hazard class(es):</b>	9		
<b>Hazard label(s):</b>	9A		
<b>Hazard identification number:</b>		<b>Tunnel restriction code:</b>	E
<b>Other Information:</b>	Transportation of batteries packed with equipment, may be packed as "UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT"		

#### Inland water ways transport (ADN)

<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 should not be labelled as an environmental hazard (symbol: fish and tree).
<b>14.3. Transport hazard class(es):</b>	9		
<b>Hazard label(s):</b>	9A		
<b>Transport in tank vessels:</b>		<b>Other Information:</b>	Transportation of batteries packed with equipment, may be packed as "UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT"

#### Sea transport (IMDG)

<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>EmS:</b>	F-A, S-I	<b>IMDG Code segregation group:</b>	- None -

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**Other Information:** 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 MARPOL73/78 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.

### 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	15/12/2016	BV HSE/THS	New
1.1.0	04/10/2017	BV HSE/CGJ	1, 16
1.2.0	11/10/2017	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 1907/2006/EC (REACH) as subsequently changed.

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



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

### List of relevant H-statements

H228 Flammable solid.  
H261 In contact with water releases flammable gases.

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

### SDS is prepared by

**Company:** Bureau Veritas HSE Denmark A/S  
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