Material Safety Data Sheet

ENGLISH

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Section 1 – Chemical Product and Company Identification	
Trade name:	**NUMATIC LIPO BATTERY PACK 36V** Lithium ion battery
Product number:	604506
Supplier:	NUMATIC INTERNATIONAL LIMITED Millfield Road Chard Somerset TA20 2GB +44 (0)1460 68600 www.numatic.com
Intended use:	Rechargeable battery for Vacuum cleaner Only for use with NUMATIC cordless machines
Specifications:	▪ Rated Voltage: DC 36V ▪ Rated Capacity: 5200 mAh ▪ Rated Energy: 187 Wh ▪ Storage temperature: -20 to + 35°C ▪ Optimum preservation of functionality: +10 to +20°C ▪ Weight: 1800 g ▪ Number / type of cells: 10 / Prismatic
CE marking Safety requirements	The battery displays a CE marking The battery was tested and certified in accordance with UN 38.3

Section 2 – Composition, Information on ingredients

Chemical Composition	Molecular Formula	CAS No.	Weight (%)
Lithium Manganese Nickel and Cobalt	*$LiNi_xCo_yMn_zO^2$*	*--*	*41.6*
Iron	*Fe*	*7439-89-6*	*15~25*
Aluminium	*Al*	*7429-90-5*	*1~5*

Chemical Composition		Molecular Formula	CAS No.	Weight (%)
Graphite	*Natural Graphite*	*C*	*7782-42-5*	*5~10*
	Artificial Graphite	*C*	*7740-44-0*	*5~10*
Copper		*Cu*	*7440-50-8*	*5~10*
Organic Electrolyte		*--*	*--*	*15~20*
Other PVC		*--*	*--*	*2~3*

Section 3 – Hazards Identification

- Electrolyte may escape from damaged batteries. Avoid contact
- Contact can cause skin irritation, burns and chemical burns
- If liquid comes into contact with eyes, seek medical attention
- Avoid inhaling any vapours formed or released – caustic

Section 4 – First Aid Measures

In the event of contact with released electrolyte or electrolyte vapours

- Eye contact – flush eyes for at least 15 minutes with plenty of clean water without rubbing and consult a physician
- Skin contact – wash affected areas of skin with plenty of water and soap; if irritation persists, consult a physician
- Inhalation – provide fresh air or administer oxygen immediately and consult a physician
- Ingestion – if electrolyte has been ingested, consult a physician immediately
  Information for physicians –
- Contains caustic alkaline electrolytes in cells with lithium oxide, nickel oxide and cobalt/lithium manganese oxide cathodes
  – NO LITHIUM METAL OR LITHIUM ALLOYS

Section 5 – Fire Fighting Measures

- In case of fire – Keep clear of vapours and gases generated, take wind direction into consideration. If possible without danger, remove batteries from the vicinity of the fire. In principle, cooling or extinguishing with water is possible, but should only be done by trained personnel with sufficiently large quantities of water
  - If the hazard situation is unclear, extinguish only with ABC powder extinguishers (Class D extinguishers for fires involving metals are especially suitable). Fire fighters should only approach the fire wearing protective clothing and self-contained breathing apparatus
  - Once the fire has been extinguished, as a rule, the area should be monitored (fire watch) and cleaned up by trained and appropriately equipped personnel; fire residue should be contained and disposed of properly

Section 6 – Accidental Release

- Disposal – Wear protective gear, wipe up with absorbent textile and dispose of as hazardous waste at collection points for hazardous waste according to national regulations

Section 7 – Handling and Storage

Danger!
Improper handling can lead to an explosion or ignite a fire!
Store batteries out of reach of children

- Insert the battery in the machine only when it is in use:
  Always remove the battery from the machine for transport and when it is not in use
- Storage temperature range: -20 to +35°C
  Temperatures must not exceed 50°C
- Relative humidity range: 45 to 85%

Optimum preservation of functionality: +10 to +20°C

WARNING:

- Do not open the battery, disassemble it or allow it to fall from a substantial height
- Protect the battery against short-circuiting – danger of explosion!
- Protect the battery against rain, do not immerse in liquids – danger of short-circuiting
- Protect the battery against direct sunlight, heat and fire
- Do not incinerate the battery –danger of explosion!
- Do not use defective or deformed batteries

Use only original NUMATIC chargers to charge the battery

Section 8 – Exposure Controls, Personal Protection

Respiratory Protection

In case of battery venting, providing as much ventilation as possible. Avoid confined areas with venting batteries. Respiratory Protection is not necessary under conditions of normal use.

Ventilation

Not necessary under conditions of normal use.

Protective Gloves

Not necessary under conditions of normal use.

Other Protective Clothing or Equipment

Not necessary under conditions of normal use.
Personal Protection is recommended for venting batteries: Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

Section 9 – Physical and Chemical Properties

Nominal Voltage: 36V
Rated Capacity: 5200mAh
Electric Energy: 187Wh

Appearance Characteristics: Black, quadrate, with odourless solid battery.
Chemical Uses: Vacuum cleaner

Section 10 – Stability and Reactivity

Stability
Stable.
Conditions to Avoid
Heating, mechanical abuse and electrical abuse.
Hazardous Decomposition Products
N/A
Hazardous Polymerization
N/A
If product leaks, avoid contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons

Section 11 – Toxicological Information

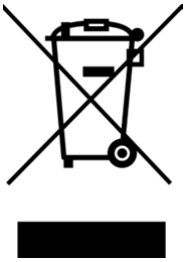
Inhalation, skin contact and eye contact are possible when the battery is opened.

Exposure to internal contents; the corrosive fumes will be very irritating to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibroid lung injury and membrane irritation

Section 12 – Ecological Information

When properly used or disposed of the battery does not present an environmental hazard.

Section 13 – Disposal Consideration



On the basis of the Battery Directive, the manufacturers take responsibility for financing collection, treatment and recycling of batteries used in devices, to this end, batteries must be handed over for disposal to the collection systems established for this under national law. Disposal of batteries together with household waste is prohibited; batteries must be collected separately according to type

Section 14 – Transport Information

Transport according to laws on hazardous goods

Road / Rail

Battery (alone) – UN3480 Lithium ion batteries, 9 II, (E)
Packaging order – P903
Special provisions –SV230 Transport requirements
SV636 Transportation of used batteries
Further exemptions – E0 - NOT POSSIBLE
LQ0 – NOT POSSIBLE

Sea transport

Battery (alone) - UN3480 Lithium ion batteries, 9 II
Packaging order – P903
Special provisions –SV230 Transport requirements
Further exemptions – E0 - NOT POSSIBLE
LQ0 – NOT POSSIBLE

Air transport

Battery (alone) - UN3480 Lithium ion batteries, 9 II
Packaging order – P965 Part 1 (alone)
Exemptions – P965/966 - NOT POSSIBLE
E0 – NOT POSSIBLE

Please note individual national regulations as well as exceptions on the basis of national adoption of multilateral agreements

Section 15 – Regulatory Information
Within the territory of the EU, at a minimum, the battery is subject to the following EU directives / regulations in the respectively current version and the national regulations enacted in this regard: ▪ Directive on General Product Safety 2001/95/EC ▪ Batteries and Accumulators Directive 2006/66/EC ▪ REACH regulation (EC) No. 1907/2006
Section 16 – Other Information
The information in this data sheet does not constitute guaranteed product properties, but instead is furnished solely as a courtesy to the user. It is believed to be accurate on the basis of the currently valid regulations.