



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

### **1.1. Product identifier**

Battery pack - Dangerous Good according to UN3480

#### **Further trade names**

Battery Pack Frame black 400Wh / 0275.007.503 / 36Vx40, 11 Ah, 400 Wh / 300\*100\*952,6  
Battery Pack Frame white 400Wh / 0275.007.504 / 36Vx40, 11 Ah, 400 Wh / 300\*100\*952,6  
Battery Pack Rack black 400Wh / 0275.007.505 / 36Vx40, 11 Ah, 400 Wh / 370\*75\*120 2,6  
PowerPack 300 Active Line Frame platinum / 0275.007.509 / 36Vx30, 8,2 Ah, 300 Wh / 320\*90\*90 2,0  
PowerPack 400 Active Line Frame platinum / 0275.007.510 / 36Vx40, 11 Ah, 400 Wh / 320\*90\*90 2,4  
PowerPack 300 Performance Line Frame anthracite / 0275.007.511 / 36Vx30, 8,2 Ah, 300Wh / 320\*90\*90 2,0  
PowerPack 400 Performance Line Frame anthracite / 0275.007.512 / 36Vx40, 11 Ah, 400 Wh / 320\*90\*90 2,4  
PowerPack 400 Performance Line USA Frame anthracite / 0275.007.524 / 36Vx40, 11 Ah, 400 Wh / 320\*90\*90 2,4  
PowerPack 400 Active Line USA Rack platinum / 0275.007.526 / 36Vx40, 11 Ah, 400 Wh / 320\*90\*90 2,4  
PowerPack 500 Active Line Frame platinum / 0275.007.529 / 36Vx40, 13,4 Ah, 500 Wh / 320\*90\*90 2,6  
PowerPack 500 Performance Line Frame anthracite / 0275.007.530 / 36Vx40, 13,4 Ah, 500 Wh / 320\*90\*90 2,6  
PowerPack 300 Active Line Rack platinum / 0275.007.513 / 36Vx40, 8,2 Ah, 300Wh / 370\*122\*76 2,6  
PowerPack 400 Active Line Rack platinum / 0275.007.514 / 36Vx40, 11 Ah, 400 Wh / 370\*122\*76 2,6  
PowerPack 400 Performance Line Rack anthracite / 0275.007.522 / 36Vx40, 11 Ah, 400 Wh / 370\*122\*76 2,6  
PowerPack 400 Performance Line USA Rack anthracite / 0275.007.525 / 36Vx40, 11 Ah, 400 Wh / 370\*122\*76 2,6  
PowerPack 500 Active Line Rack platinum / 0275.007.531 / 36Vx40, 13,4 Ah, 500 Wh / 370\*122\*76 2,7  
PowerPack 500 Performance Line Rack anthracite / 0275.007.532 / 36Vx40, 13,4 Ah, 500 Wh / 370\*122\*76 2,7  
PowerPack 500 Active US Frame Platinum / 0275.007.533 / 36Vx40, 13,4 Ah, 500 Wh / 320\*90\*90 2,6  
PowerPack 500 Performance US Frame Anthracite / 0275.007.534 / 36Vx40, 13,4 Ah, 500 Wh / 320\*90\*90 2,6  
PowerPack 500 Active US Rack Type Platinum / 0275.007.535 / 36Vx40, 13,4 Ah, 500 Wh / 370\*122\*76 2,7  
PowerPack 500 Performance US Rack Type Anthracite / 0275.007.536 / 36Vx40, 13,4 Ah, 500 Wh / 370\*122\*76 2,7  
PowerPack 400 Active US Frame Platinum / 0275.007.538 / 36Vx40, 11 Ah, 400 Wh / 320\*90\*90 2,4  
PowerPack 300 Active Line Frame Platinum / 0275.007.547 / 36Vx40, 8,2 Ah, 300Wh / 320\*90\*90 2,4  
PowerPack 300 Performance Line Frame Anthracite / 0275.007.548 / 36Vx40, 8,2 Ah, 300Wh / 320\*90\*90 2,4  
PowerPack 300 Active Line Frame Anthracite Japan / 0275.007.549 / 36Vx40, 8,2 Ah, 300Wh / 320\*90\*90 2,4  
PowerTube 500 Horizontal Black / 0275.007.539 / 36Vx40, 13,4 Ah, 500 Wh / 360\*84\*65 2,8  
PowerTube 500 Vertical Black / 0275.007.540 / 36Vx40, 13,4 Ah, 500 Wh / 360\*84\*65 2,8  
PowerTube 500 Horizontal Black US / 0275.007.541 / 36Vx40, 13,4 Ah, 500 Wh / 360\*84\*65 2,8  
PowerTube 500 Vertical Black US / 0275.007.542 / 36Vx40, 13,4 Ah, 500 Wh / 360\*84\*65 2,8

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

#### **Use of the substance/mixture**

Not applicable.

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

Company name: Robert Bosch GmbH  
Automotive Electronics



Street: Gerhard-Kindler-Str.3  
Place: D-72770 Reutlingen  
Telephone: +49 (0)7121 7666000  
Responsible Department: Responsible for the safety data sheet: sds@gbk-ingelheim.de

**1.4. Emergency telephone number:** +49 (0) 6132 / 84463 (GBK GmbH)

## **SECTION 2: Hazards identification**

### **2.1. Classification of the substance or mixture**

#### **Classification according to Directive 67/548/EEC or 1999/45/EC**

This mixture is not classified as hazardous in accordance with Directive 1999/45/EC.

Not applicable

#### **Classification according to Regulation (EC) No. 1272/2008 [CLP]**

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

### **2.2. Label elements**

#### **Additional advice on labelling**

There is no hazard when the measures for handling and storage are followed.

### **2.3. Other hazards**

In case of electrolyte leakage:

According to concentration, aqueous solution causes irritations or burns of eyes, skin and mucous membranes.

In case of cell damage, possible release of dangerous substances and a flammable gas mixture.

## **SECTION 3: Composition/information on ingredients**

### **3.2. Mixtures**

#### **Chemical characterization**

Kathode:

Litium-Metall Oxide (active material)

Polyvinyldiene Fluoride (Binder)

Graphite (conductive material)

Aluminium Foil

Anode:

Carbon(active material)

Polyvinyldiene Fluoride (Binder)

Cooper Foil

Electrolyte:

Organic solvent (non aqueous liquid)

Silicic acid, lithium salt

#### **Further Information**

Because of the cell structure the dangerous ingredients will not be available if used properly.

## **SECTION 4: First aid measures**

### **4.1. Description of first aid measures**

#### **General information**

The following first aid measures are required only in case of exposure to interior battery components after damage of the external battery casing.

Undamaged, closed cells do not represent a danger to the health.

#### **After inhalation**

Ensure of fresh air.

Consult a physician.

#### **After contact with skin**

In case of contact with skin wash off immediately with soap and water.

Consult a physician.

**After contact with eyes**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Seek medical treatment by eye specialist.

**After ingestion**

Drink plenty of water. Do not induce vomiting.  
Call a physician immediately.

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

In case of electrolyte leakage:

According to concentration, aqueous solution causes irritations or burns of eyes, skin and mucous membranes.

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

Treat symptoms.

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**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable extinguishing media**

Cold water and dry powder in large amount are applicable.  
Use metal fire extinction powder or dry sand if only few cells are involved.

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

Burning may release the following flue gases such as:  
carbon monoxide and carbon dioxide

**5.3. Advice for firefighters**

Wear self-contained breathing apparatus and protective suit.

**Additional information**

If possible, remove cell(s) from fire fighting area. If heated above 125°C, cell(s) can explode/vent.  
Cell is not flammable but internal organic material will burn if the cell is incinerated.

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**SECTION 6: Accidental release measures**

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

Use personal protective clothing.  
Avoid contact with skin, eyes and clothing.  
Avoid breathing fume and gas.

**6.2. Environmental precautions**

Do not discharge into the drains/surface waters/ground water.

**6.3. Methods and material for containment and cleaning up**

Take up mechanically and send for disposal.

**6.4. Reference to other sections**

Information for disposal see section 13.

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**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling**

Avoid short circuiting the cell. Avoid mechanical damage of the cell. Do not open or disassemble.  
Follow the directions.

**Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition.

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

**Requirements for storage rooms and vessels**

Store only in original container at cool and aired place.  
Recommended storage temperature: < 40 °C

**7.3. Specific end use(s)**

No data available.

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## **SECTION 8: Exposure controls/personal protection**

### **8.1. Control parameters**

#### **Additional advice on limit values**

During normal charging and discharging there is no release of product.

### **8.2. Exposure controls**

#### **Protective and hygiene measures**

In case of electrolyte leakage:

Provide sufficient air exchange and/or exhaust in work rooms.

Use personal protective clothing.

Avoid contact with skin, eyes and clothing.

Avoid breathing fume and gas.

Remove all sources of ignition.

#### **Eye/face protection**

In case of electrolyte leakage:

Tightly fitting goggles (EN 166).

#### **Hand protection**

In case of electrolyte leakage:

Rubber gloves

#### **Respiratory protection**

In case of electrolyte leakage:

Use protective face mask (EN 149).

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## **SECTION 9: Physical and chemical properties**

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

Physical state:	Solid
Colour:	Various
Odour:	Odourless

#### **Changes in the physical state**

### **9.2. Other information**

No data available.

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## **SECTION 10: Stability and reactivity**

### **10.1. Reactivity**

No data available.

### **10.2. Chemical stability**

No data available.

### **10.3. Possibility of hazardous reactions**

Electrolyte and electrodes may react with water or moisture.

### **10.4. Conditions to avoid**

Keep away from open flames, hot surfaces and sources of ignition.

Do not puncture, crush or incinerate.

Avoid temperatures above 60°C.

### **10.5. Incompatible materials**

No materials to be especially mentioned.

### **10.6. Hazardous decomposition products**

No data available.

#### **Further information**

No decomposition if stored and applied as directed.

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## **SECTION 11: Toxicological information**

### **11.1. Information on toxicological effects**

#### **Acute toxicity**

Based on available data, the classification criteria are not met.  
LD50/oral/rat: 2000 mg/kg (Electrolyte)

#### **Irritation and corrosivity**

Based on available data, the classification criteria are not met.  
In case of electrolyte leakage:  
According to concentration, aqueous solution causes irritations or burns of eyes, skin and mucous membranes.

#### **Sensitising effects**

Based on available data, the classification criteria are not met.  
In case of electrolyte leakage:  
May cause sensitization by skin contact.

#### **STOT-single exposure**

Based on available data, the classification criteria are not met.

#### **Severe effects after repeated or prolonged exposure**

Based on available data, the classification criteria are not met.

#### **Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

#### **Aspiration hazard**

Based on available data, the classification criteria are not met.

#### **Practical experience**

#### **Other observations**

If appropriately handled and if in accordance with the general hygienic rules, no damages to health have become known.

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## **SECTION 12: Ecological information**

### **12.1. Toxicity**

No data available.

### **12.2. Persistence and degradability**

No data available.

### **12.3. Bioaccumulative potential**

No data available.

### **12.4. Mobility in soil**

No data available.

### **12.5. Results of PBT and vPvB assessment**

No data available.

### **12.6. Other adverse effects**

No data available.

#### **Further information**

Ecological injuries are not known or expected under normal use.  
Do not flush into surface water or sanitary sewer system.

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## **SECTION 13: Disposal considerations**

### **13.1. Waste treatment methods**

#### **Waste disposal number of waste from residues/unused products**

160605      WASTES NOT OTHERWISE SPECIFIED IN THE LIST; batteries and accumulators; other batteries and accumulators

#### **Contaminated packaging**

Disposal in accordance with local regulations.

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## **SECTION 14: Transport information**

### **Land transport (ADR/RID)**



**14.1. UN number:** UN 3480  
**14.2. UN proper shipping name:** LITHIUM ION BATTERIES  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** -  
Hazard label: 9A



Classification code: M4  
Special Provisions: 188 230 310 348 376 377 636  
Limited quantity: 0  
Transport category: 2  
Tunnel restriction code: E

**Inland waterways transport (ADN)**

**14.1. UN number:** UN 3480  
**14.2. UN proper shipping name:** Lithium-ion battery  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** -  
Hazard label: 9A



Classification code: M4  
Special Provisions: 188 230 310 348 376 377 636  
Limited quantity: 0

**Marine transport (IMDG)**

**14.1. UN number:** UN 3480  
**14.2. UN proper shipping name:** LITHIUM ION BATTERIES  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** -  
Hazard label: 9A



Special Provisions: 188, 230, 310, 348, 376, 377  
Limited quantity: 0  
EmS: F-A, S-I

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

**14.1. UN number:** UN 3480  
**14.2. UN proper shipping name:** LITHIUM ION BATTERIES  
**14.3. Transport hazard class(es):** 9  
**14.4. Packing group:** -  
Hazard label: 9A



Special Provisions: A88 A99 A154 A164 A183 A201 A206 A331  
Limited quantity Passenger: Forbidden

IATA-packing instructions - Passenger: Forbidden  
IATA-max. quantity - Passenger: Forbidden

IATA-packing instructions - Cargo:                      See 965  
IATA-max. quantity - Cargo:                              See 965

#### **14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS:                      no

#### **14.6. Special precautions for user**

No specific precautions required.

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

The transport takes place only in approved and appropriate packaging.

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### **SECTION 15: Regulatory information**

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

##### **National regulatory information**

##### **Additional information**

Note: This product is an "article" and is not an object that is required to issue Safety Data Sheets (SDS) by regulations concerning chemical substances. This SDS voluntarily offers helpful information for your safe handling and environmental care.

#### **15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

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### **SECTION 16: Other information**

#### **Changes**

Changes in chapter: 9

#### **Abbreviations and acronyms**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
IMDG = International Maritime Code for Dangerous Goods  
IATA/ICAO = International Air Transport Association / International Civil Aviation Organization  
MARPOL = International Convention for the Prevention of Pollution from Ships  
DOT = Department of Transportation  
TDG = Transport of Dangerous Goods

GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
REACH = Registration, Evaluation, Authorization and Restriction of Chemicals  
CAS = Chemical Abstract Service  
EN = European norm  
ISO = International Organization for Standardization  
DIN = Deutsche Industrie Norm  
PBT = Persistent Bioaccumulative and Toxic  
vPvB = Very Persistent and very Bio-accumulative

LD = Lethal dose  
LC = Lethal concentration  
EC = Effect concentration  
IC = Median immobilisation concentration or median inhibitory concentration

#### **Further Information**

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities. The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge. This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations. (n.a. = not applicable; n.d. = not determined)

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*