

Rechargeable battery EB-BT365BBE in smart computers

Revision date: 07.06.2019

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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Further trade names

Smart computer:

SHAFTALIGN touch Tablet ALI 26.200

LASER-EQUILIGN 2 Tablet ALI 27.200

Tab-Ex 02 DZ1 WiFi ALI 52.200-Z1

Tab-Ex 02 DZ1 WWAN ALI 52.200-Z1.NA

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

Measuring computer. The battery may only be charged with chargers specified in the operating instructions.

Uses advised against

Use only for the intended purpose.

1.3. Details of the supplier of the safety data sheet

Company name:	Prüftechnik AG
Street:	Oskar-Messter-Strasse 19-21
Place:	D-85737 Ismaning
Telephone:	+49 (0) 89 99 616-0
e-mail:	info@prueftechnik.com
Internet:	www.prueftechnik.com
Responsible Department:	www.prueftechnik.com

1.4. Emergency telephone number: +49 (0) 89 99 616-114 (24/7)**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

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

The chemicals mentioned in 3.2 are contained in sealed cans, so they cannot leak when properly used. Under normal conditions of use, risk of exposure occurs only if the battery is mechanically abused. Note: Lithium batteries are articles. Under normal conditions no substances are released from lithium batteries.

2.2. Label elements**2.3. Other hazards**

The product must not be short-circuited. Short-circuiting (even with metallic jewellery or tools) can cause a fire or burns due to high currents. Mechanical damage can lead to internal short-circuits. The high current flow causes the battery to heat up. Plastic housings can melt and catch fire. Under certain circumstances a mechanical defect may not be immediately recognizable. There may still be an internal short-circuit even a long time after the mechanical defect. The electrolyte is flammable. In case of electrolyte leakage, put the battery out of fire range immediately. If a battery burns, the vapors can irritate eyes, skin and the respiratory tract.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

according to Regulation (EC) No 1907/2006

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
21324-40-3	lithium hexafluorophosphate (elektrolyte)			0,5 - 5 %
96-49-1	Ethylen carbonate (electrolyt solvent)			5-20 %
108-32-7	Propylene carbonate (electrolyte solvent)			5-20 %
105-58-8	Diethyl carbonate (electrolyte solvent)			5-20 %
105-37-3	Ethyl propionate (electrolyte solvent)			5-20 %
1120-71-4	1,3-Propanesultone (electrolyte solvent)			<0,5 %
24937-79-9	Polyvinylidene difluoride (binder)			<1 %
7429-90-5	Aluminium			2-10 %
	231-072-3			
12190-79-3	Lithium cobalt oxide (cathode)			20-50 %
	235-362-0			
7782-42-5	Graphite (anode)			10-30 %

Full text of H and EUH statements: see section 16.

Further Information

Heavy metals such as mercury, cadmium, lead and chromium are not used in the cells.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Change contaminated, saturated clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

First aider: Pay attention to self-protection!

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After inhalation

Remove casualty to fresh air and keep warm and at rest. In case of respiratory tract irritation, consult a physician.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Seek medical advice immediately.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove contact lenses, if present and easy to do. Continue rinsing. In case of eye irritation consult an ophthalmologist.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

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

Immediate medical treatment required because corrosive injuries that are not treated are hard to cure. Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

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

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

In case of fire, use extinguishing powder or sand.
Fires involving lithium batteries in use can generally be fought with water; this should only be carried out by trained personnel with sufficient volumes of water, however.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of heat or burning, the product decomposes under occurrence of dangerous gases.

5.3. Advice for firefighters

Special protective equipment for firefighters Protective clothing.
In case of fire: Wear self-contained breathing apparatus.
Co-ordinate fire-fighting measures to the fire surroundings.
Keep away from unprotected people. Keep upwind. Remove rechargeable batteries from the area of the fire if safe to do so.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protection equipment.
Keep away from unprotected people.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Electrolyte can leak if the battery housing is damaged. Batteries must be hermetically sealed in a plastic bag and dry sand, chalk powder (CaCO₃) or vermiculite has to be added. Traces of electrolyte can be soaked up with dry sanitary paper. Direct contact with the skin must be avoided by wearing protective gloves. Skin must be rinsed with copious water.

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6.4. Reference to other sections

See protective measures under point 7 and 8. Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Do not open, crush, disassemble, drop or solder the battery. Store the battery out of the reach of children.

Advice on protection against fire and explosion

Wrong handling can cause fire or explosion.

Further information on handling

Charge within temperature range of 0°C to +45°C. Discharge within temperature range of -20 °C to +60 C.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

storage temperature: -20 - +45 C

Relative air humidity (%): 0% - 80%

Hints on joint storage

Keep in a cool place away from metals.

Further information on storage conditions

Ensure adequate ventilation of the storage area.

7.3. Specific end use(s)

Follow the instructions for use of the associated device.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
7429-90-5	Aluminium metal, respirable dust	-	4		TWA (8 h)	WEL
7440-50-8	Copper, dusts and mists (as Cu)	-	1		TWA (8 h)	WEL
		-	2		STEL (15 min)	WEL

Additional advice on limit values

Lithium batteries are articles. Under normal conditions no substances are released from lithium batteries.

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures

Only wear fitting, comfortable and clean protective clothing.

Wash hands before breaks and after work.

Keep away from food, drink and animal feedingstuffs.

Eye/face protection

Suitable eye protection: goggles

Hand protection

Chemical resistant safety shoes

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

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Skin protection

Protective clothing

Respiratory protection

In the event of a major escape of electrolyte fluid, wear gas masks against organic gases.

Environmental exposure controls

No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	not applicable
Odour:	not applicable

Test method

pH-Value:	not applicable
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Changes in the physical state

Melting point:	not applicable
Initial boiling point and boiling range:	not applicable
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
Flash point:	not applicable

Flammability

Solid:	not applicable
Gas:	not applicable

Explosive properties

There is the risk of abnormal heat generation and explosion if batteries are crushed, caused external short circuits, heated above 100 degree C and disposed in fire.

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	not applicable

Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:	not applicable
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Oxidizing properties

Not oxidising.

Vapour pressure:	not applicable
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Density:	not applicable
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Water solubility:	not applicable
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Solubility in other solvents

not applicable

Partition coefficient:	not applicable
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Viscosity / dynamic:	not applicable
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Vapour density:	not applicable
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Evaporation rate:	not applicable
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9.2. Other information

Net weight: 85 g, Nominal voltage: 3,8 V; Nominal energy: <100 Wh

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non-reactive under normal use conditions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Protect from short-circuiting, fire and direct sunlight.

10.5. Incompatible materials

metals

10.6. Hazardous decomposition products

Thermal decomposition can lead to harmful gases and vapors.

Further information

If stored for long durations, the capacity of the battery is reduced and the expected functional life is shortened.
The housing can be damaged by leaking electrolyte.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.
With proper use of the product no toxic effects are expected.

Irritation and corrosivity

Based on available data, the classification criteria are not met.
Escaped electrolyte fluid can cause skin irritation, thermal and chemical burns.

Sensitising effects

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.

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

SECTION 12: Ecological information

12.1. Toxicity

No information available.

according to Regulation (EC) No 1907/2006

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7782-42-5	Graphite (anode)					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Danio rerio	Study report (2010)	OECD Guideline 203
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (2010)	OECD Guideline 201
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna	Study report (2010)	OECD Guideline 202
	Acute bacteria toxicity	(> 1012,5 mg/l)	3 h	activated sludge of a predominantly domestic sewage	Study report (2010)	OECD Guideline 209

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations
13.1. Waste treatment methods**Advice on disposal**

Dispose of waste according to applicable legislation.

The battery must never be disposed of as residual waste. A battery is hazardous waste and must only be disposed of by a collection system. Disposal according to official regulations. In order to prevent short-circuits and the accompanying heating, lithium batteries must never be stored or transported unprotected in bulk. The product is registered under the number: 21.001.779 in accordance with the German Battery Act.

Contaminated packaging

Dispose of waste according to applicable legislation.

SECTION 14: Transport information
Land transport (ADR/RID)

14.1. UN number:	UN 3481
14.2. UN proper shipping name:	LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT
14.3. Transport hazard class(es):	9
14.4. Packing group:	-
Hazard label:	9A
Classification code:	M4
Special Provisions:	188 230 310 348 360 376 377 636
Limited quantity:	0
Excepted quantity:	E0
Transport category:	2
Tunnel restriction code:	E

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Other applicable information (land transport)

P903, P908, P909, LP903, LP904

Inland waterways transport (ADN)

14.1. UN number:	UN 3481
14.2. UN proper shipping name:	LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT
14.3. Transport hazard class(es):	9
14.4. Packing group:	-
Hazard label:	9A
Classification code:	M4
Special Provisions:	188 230 348 360 376 377 636
Limited quantity:	0
Excepted quantity:	E0

Other applicable information (inland waterways transport)

P903, P908, P909, LP903, LP904

Marine transport (IMDG)

14.1. UN number:	UN 3481
14.2. UN proper shipping name:	LITHIUM ION BATTERIES contained in equipment
14.3. Transport hazard class(es):	9
14.4. Packing group:	-
Hazard label:	9A
Special Provisions:	188, 230, 310, 348, 360, 376, 377, 384
Limited quantity:	0
Excepted quantity:	E0
EmS:	F-A, S-I

Other applicable information (marine transport)

P903, P908, P909, LP903, LP904

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	UN 3481
14.2. UN proper shipping name:	LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT
14.3. Transport hazard class(es):	9
14.4. Packing group:	-
Hazard label:	9A
Special Provisions:	A48 A88 A99 A154 A164 A181 A185 A206
Limited quantity Passenger:	Forbidden
Passenger LQ:	Forbidden
Excepted quantity:	E0
IATA-packing instructions - Passenger:	967
IATA-max. quantity - Passenger:	5 kg
IATA-packing instructions - Cargo:	967
IATA-max. quantity - Cargo:	35 kg

Other applicable information (air transport)

LITHIUM ION BATTERIES and LITHIUM ION BATTERIES packed with equipment are limited to a maximum of 30% State of Charge (SoC)

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No information available.

according to Regulation (EC) No 1907/2006

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

No information available.

Other applicable information

Each type of cell and battery has been tested and fulfills all requirements according to the UN "Manual of Tests and Criteria" Part III, subsection 38.3.

Watt-hour rating: < 100 Wh

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information****15.2. Chemical safety assessment**

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

SECTION 16: Other information**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer

(Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

CAS: Chemical Abstracts Service (division of the American Chemical Society)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CLP: Regulation on Classification, Labelling and Packaging of Substances and Mixtures,

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

EC50: Effect concentration, 50 percent

DNEL: Derived No Effect Level

PNEC: Predicted No Effect Concentration

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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