

**757B13 - Interchangeable Battery**

Material number 757B13

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**1. Product and company identification****Product identifier**

Trade name: 757B13 - Interchangeable Battery

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

General use: Electrical batteries and accumulators

**Details of the supplier of the safety data sheet**

Company name: Otto Bock Health Care

Street/POB-No.: 3820 W. Great Lakes Drive

Postal Code, city: Salt Lake City, UT 84120  
USAWWW: [www.ottobockus.com](http://www.ottobockus.com)

Telephone: +1 (801) 956-2400

Telefax: +1 (801) 956-2401

Dept. responsible for information:

Quality Department,

Telephone: +1 (801) 954-2304 (7 AM – 3 PM, Mountain Time),

Email: [USRegulatory@ottobock.com](mailto:USRegulatory@ottobock.com)

Additional information:

Corporate headquarters:

Ottobock SE &amp; Co. KGaA

Max-Näder-Straße 15

Duderstadt

Germany

**Emergency phone number****CHEMTREC, Telephone: +1 (800) 424-9300****Transport:****CONSULTANK Lutz Harder GmbH (Contract QUALI003)****Telephone: +49 (0)178-4337434 (from USA: 01149 178 4337434)****2. Hazards identification****Emergency overview**

Appearance: Physical state at 68 °F and 101.3 kPa: solid

Form: Cells: 4 (shrink tape)

Odor: No data available

Classification: Article not subject to hazard labelling or classification.

**Regulatory status**

This material is not considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

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**Hazards not otherwise classified**

The battery is hermetically sealed. Avoid short circuit. Avoid damage to the battery casing.

Danger of releasing ingredients, mentioned in section 3, by damaging the battery

- with strong mechanical action,
- in case of heating and/or fire,
- with influence of water,
- short circuit.

May be corrosive to metals.

Harmful if swallowed or if inhaled.

Causes severe skin burns and eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Suspected of causing genetic defects. May cause cancer. May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

Very toxic to aquatic life with long lasting effects.

see section 11: Toxicological information

**3. Composition / Information on ingredients**

Chemical characterization: Article: Batteries, nickel-metal hydride.

The chemical materials are stored in a hermetically sealed metal case.

Contains metals: Nickel, Iron, Lanthanum, Cerium, Neodymium, Praseodymium, Cobalt, Manganese, Zinc, Aluminium

Contains plastics: Polyamide, Polypropylene, Polyvinyl chloride, Polyethylene, Rubber

Electrolyte: Potassium hydroxide, Sodium hydroxide, Lithium hydroxide, Water

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Relevant ingredients:

CAS No.	Designation	Content	Classification
CAS 7440-02-0	Nickel	30 - 50 %	Sensitization - skin - Category 1. Carcinogenicity - Category 2. Specific Target Organ Toxicity (Repeated Exposure) - Category 1. Aquatic toxicity - chronic - Category 3.
CAS 12054-48-7	Nickel dihydroxide	30 - 50 %	Acute Toxicity - oral - Category 4. Acute Toxicity - inhalative - Category 4. Skin Irritation - Category 2. Respiratory Sensitizer - Category 1. Sensitization - skin - Category 1. Germ cell mutagenicity - Category 2. Carcinogenicity - Category 1A. Reproductive toxicant - Category 1B. Specific Target Organ Toxicity (Repeated Exposure) - Category 1. Aquatic toxicity - acute - Category 1. Aquatic toxicity - chronic - Category 1.
CAS 1313-99-1	Nickel monoxide	30 - 50 %	Sensitization - skin - Category 1. Carcinogenicity - Category 1A. Specific Target Organ Toxicity (Repeated Exposure) - Category 1. Aquatic toxicity - chronic - Category 4.
CAS 1310-58-3	Potassium hydroxide	< 7 %	Corrosive to Metals - Category 1. Acute Toxicity - oral - Category 4. Skin Corrosion - Category 1A.
CAS 7440-48-4	Cobalt	2 - 6 %	Acute Toxicity - oral - Category 4. Acute Toxicity - inhalative - Category 1. Eye Irritation - Category 2A. Respiratory Sensitizer - Category 1. Sensitization - skin - Category 1. Carcinogenicity - Category 1B. Reproductive toxicant - Category 2. Aquatic toxicity - acute - Category 1. Aquatic toxicity - chronic - Category 1.
CAS 1310-73-2	Sodium hydroxide	0 - 4 %	Corrosive to Metals - Category 1. Skin Corrosion - Category 1A.
CAS 1310-65-2	Lithium hydroxide	0 - 4 %	Acute Toxicity - oral - Category 4. Skin Corrosion - Category 1A.

Additional information: The maximum workplace exposure limits are, where necessary, listed in section 8.

### 4. First aid measures

General information: In case of damaged battery cases / In case of exposure to hazardous ingredients: Take off immediately all contaminated clothing. First aider: Pay attention to self-protection!

In case of inhalation: Provide fresh air. Keep victim at rest in half upright position. If breathing has stopped, give artificial respiration immediately. Seek medical attention.

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- Following skin contact: Immediately clean with water and soap and, if available, apply a generous amount of polyethylene glycol 400 or protective hand cream. Wash contaminated clothing before reuse. Subsequently consult physician.
- After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Seek the attention of an ophthalmologist immediately.
- After swallowing: Rinse mouth with water. Drink large quantities of water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Do not try to neutralize. Immediately get medical attention.

**Most important symptoms/effects, acute and delayed**

The battery is hermetically sealed. No hazardous reaction when handled and stored according to provisions.

In case of damaged battery cases / In case of exposure to hazardous ingredients:

Harmful if swallowed or if inhaled.

Causes severe skin burns and eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Suspected of causing genetic defects. May cause cancer. May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

**Information to physician**

Treat symptomatically. Symptoms of poisoning may develop several hours following exposure. Victim should be under medical observation for at least 48 hours after exposure.

**5. Fire fighting measures**

Flash point/flash point range:

Not applicable

Auto-ignition temperature: No data available

Suitable extinguishing media:

Dry extinguishing powder

Extinguishing media which must not be used for safety reasons:

Water

**Specific hazards arising from the chemical**

In case of fire may be liberated: toxic gases/vapours (metal oxide smoke), corrosive gases/vapours, carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information:

Exposure to fire may cause containers to rupture/explode.

Cool endangered containers with water spray and, if possible, remove from danger zone.

Do not allow fire water to penetrate into surface or ground water.

## 6. Accidental release measures

Personal precautions:	Avoid exposure. Provide adequate ventilation. Eliminate all ignition sources if safe to do so. In case of damaged battery cases: Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Keep unprotected people away. Avoid generation of dust. Do not inhale vapors or dust particles. Avoid contact with skin and eyes. Avoid contact with liquid and vapor.
Environmental precautions:	Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary. If necessary notify appropriate authorities.
Methods for clean-up:	In case of damaged battery cases: Plug leak if safely possible. Soak up with absorbent materials such as sand, siliceous earth, acid- or universal binder. Store in special closed containers and dispose of according to ordinance.
Additional information:	Avoid short circuit. Danger of releasing ingredients, mentioned in section 3, by damaging the battery <ul style="list-style-type: none"><li>- with strong mechanical action,</li><li>- in case of heating and/or fire,</li><li>- with influence of water,</li><li>- short circuit.</li></ul>

## 7. Handling and storage

### Handling

Advices on safe handling:	Provide adequate ventilation, and local exhaust as needed. Avoid contact with skin and eyes. In case of damaged battery cases: Avoid exposure. Avoid generation of dust. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse.
Precautions against fire and explosion:	Avoid short circuit. Eliminate all ignition sources if safe to do so.

### Storage

Requirements for storerooms and containers:	Keep container tightly closed and dry. Store at room temperature. Protect from: humidity, heat, UV-radiation/sunlight. Storage temperature: 41 °F up to 77 °F Air humidity: 60% up to 70%
Hints on joint storage:	Do not store together with strong acids, strong oxidizing agents, alkalis, conductive material(s). Keep away from food, drink and animal feedingstuffs.
Further details:	Avoid damage to the battery casing. Charging temperature: 32 °F up to 113 °F Discharging temperature: -4 °F up to 140 °F

**8. Exposure controls / personal protection**

**Exposure guidelines**

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
7440-02-0	Nickel	USA: ACGIH: TWA	1.5 mg/m <sup>3</sup>
		USA: NIOSH: TWA	0.015 mg/m <sup>3</sup>
		USA: OSHA: TWA	1 mg/m <sup>3</sup>
7439-89-6	Iron	USA: ACGIH: TWA	10 mg/m <sup>3</sup>
		USA: OSHA: TWA	10 mg/m <sup>3</sup>
1310-58-3	Potassium hydroxide	ACGIH: Ceiling	2 mg/m <sup>3</sup>
		NIOSH: Ceiling	2 mg/m <sup>3</sup>
7440-48-4	Cobalt	USA: ACGIH: TWA	0.005 ppm
		USA: ACGIH: TWA	0.02 mg/m <sup>3</sup>
		USA: NIOSH: TWA	0.05 mg/m <sup>3</sup>
		USA: OSHA: TWA	0.1 mg/m <sup>3</sup>
1310-73-2	Sodium hydroxide	ACGIH: Ceiling	2 mg/m <sup>3</sup>
		NIOSH: Ceiling	2 mg/m <sup>3</sup>
		USA: OSHA: TWA	2 mg/m <sup>3</sup>
7439-96-5	Manganese	OSHA: Ceiling	5 mg/m <sup>3</sup>
		USA: ACGIH: TWA	0.02 mg/m <sup>3</sup>
		USA: ACGIH: TWA	0.1 mg/m <sup>3</sup>
		USA: NIOSH: STEL	3 mg/m <sup>3</sup>
		USA: NIOSH: TWA	1 mg/m <sup>3</sup>
7429-90-5	Aluminium	NIOSH: Ceiling	5 mg/m <sup>3</sup>
		USA: ACGIH: TWA	1 mg/m <sup>3</sup>
		USA: NIOSH: TWA	10 mg/m <sup>3</sup>
		USA: NIOSH: TWA	5 mg/m <sup>3</sup>
		USA: OSHA: TWA	15 mg/m <sup>3</sup>
9002-86-2	PVC	USA: OSHA: TWA	5 mg/m <sup>3</sup>
		USA: ACGIH: TWA	1 mg/m <sup>3</sup>

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
7440-48-4	Cobalt	USA: ACGIH-BE1, urine	15 µg/L	Cobalt; not combined with Tungsten Carbide	end of shift at end of workweek

Additional information: The battery is hermetically sealed.

**Engineering controls**

In case of damaged battery cases: Provide adequate ventilation.  
 The use of local exhaust ventilation is recommended.  
 See also information in chapter 7, section storage.

**Personal protection equipment (PPE)**

Eye/face protection In case of damaged battery cases:  
 Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

**Skin protection** In case of damaged battery cases:  
Wear appropriate protective equipment.

In case of damaged battery cases:  
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.  
Glove material: nitrile rubber or neoprene.  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

**Respiratory protection:** In case of damaged battery cases:  
For short or minimal exposure: respiratory filter; in cases of longer exposure: supplied air respirator.  
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

**General hygiene considerations:**  
Keep away from sources of ignition - No smoking.  
Avoid contact with skin and eyes. Take off immediately all contaminated clothing.  
Safety shower and eye wash station should be easily accessible to the work area.  
When using do not eat or drink. Wash hands before breaks and after work.  
Keep away from food, drink and animal feedingstuffs.  
In case of damaged battery cases:  
Do not inhale vapors or dust particles. Avoid contact with the product.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Appearance:	Physical state at 68 °F and 101.3 kPa: solid Form: Cells: 4 (shrink tape)
Odor:	No data available
Odor threshold:	No data available
pH value:	not applicable
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	Not applicable
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density:	No data available
Solubility:	No data available
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	No data available
Additional information:	Weight: 27.4 g

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**10. Stability and reactivity**

Reactivity:	In case of damaged battery cases: May be corrosive to metals.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions	Fire hazard in case of technical defects. In case of damaged battery cases: Information about Potassium hydroxide and Sodium hydroxide: Reacts with metals and light metals. Formation of hydrogen. Danger of explosion!
Conditions to avoid:	Humidity, heat, UV-radiation/sunlight. Avoid short circuit. In case of damaged battery cases: Keep away from sources of ignition - No smoking.
Incompatible materials:	Strong acids, strong oxidizing agents, alkalis, conductive material(s).
Thermal decomposition:	No data available

**11. Toxicological information****Toxicological tests**

Toxicological effects:	Acute toxicity (oral): Lack of data. Acute toxicity (dermal): Lack of data. Acute toxicity (inhalative): Lack of data. Skin corrosion/irritation: Lack of data. Serious eye damage/irritation: Lack of data. Sensitisation to the respiratory tract: Lack of data. Skin sensitisation: Lack of data. Germ cell mutagenicity/Genotoxicity: Lack of data. Carcinogenicity: Lack of data. Reproductive toxicity: Lack of data. Effects on or via lactation: Lack of data. Specific target organ toxicity (single exposure): Lack of data. Specific target organ toxicity (repeated exposure): Lack of data. Aspiration hazard: Lack of data.
Other information:	In case of damaged battery cases: Harmful if swallowed or if inhaled. Causes severe skin burns and eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.



**12. Ecological information**

**Ecotoxicity**

Aquatic toxicity: In case of damaged battery cases:  
Very toxic to aquatic life with long lasting effects.

**Mobility in soil**

No data available

**Persistence and degradability**

Further details: No data available

**Additional ecological information**

General information: Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary.  
Avoid spills and leaks. Very small amounts contaminates drinking water.

**13. Disposal considerations**

**Product**

Recommendation: Product contains metallic oxides containing heavy metals.  
Recycling or special waste incineration.

**Contaminated packaging**

Recommendation: Dispose of waste according to applicable legislation.

**14. Transport information**

**USA: Department of Transportation (DOT)**

Identification number: UN3496  
 Proper shipping name: UN 3496, UN 3496, Batteries, nickel-metal hydride  
 Hazard class or Division: 9  
 Labels: 9  
 Symbols: W  
 Special provisions: 340  
 Vessel stowage – Location: A  
 Vessel stowage – Other: 25



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**Sea transport (IMDG)**

UN number: UN 3496  
Proper shipping name: UN 3496, Batteries, nickel-metal hydride  
Class or division, Subsidiary risk: Class 9, Subrisk -  
Packing Group: -  
EmS: F-A, S-I  
Special provisions: 117, 963  
Limited quantities: 0  
Excepted quantities: E0  
Contaminated packaging - Instructions: See SP963  
Contaminated packaging - Provisions: -  
IBC - Instructions: IBC08  
IBC - Provisions: -  
Tank instructions - IMO: -  
Tank instructions - UN: -  
Tank instructions - Provisions: -  
Stowage and handling: Category A. SW1  
Properties and observations: Nickel-metal hydride button cells or nickel-metal hydride cells or batteries packed with or contained in equipment are not subject to provisions of this code.  
Marine pollutant: no  
Segregation group: none

**Air transport (IATA)**

UN/ID number: UN 3496  
Proper shipping name: UN 3496, Batteries, nickel-metal hydride  
Class or division, Subsidiary risk: Class 9  
Hazard label: Miscellaneous  
Passenger and Cargo Aircraft: Ltd.Qty.: Forbidden  
Passenger and Cargo Aircraft: Pack.Instr. SeeA199 - Max. Net Qty/Pkg. SeeA199  
Cargo Aircraft only: Pack.Instr. SeeA199 - Max. Net Qty/Pkg. SeeA199  
Special provisions: A199  
Emergency Response Guide-Code (ERG): 9L

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**15. Regulatory information****National regulations - U.S. Federal Regulations**

**Product:** This product is an article as defined by TSCA regulations, and is exempt from TSCA inventory listing requirements.

**Nickel:** Carcinogen Status:  
IARC Rating: Group 2B  
OSHA Carcinogen: not listed  
NTP Rating: listed  
Clean Water Act:  
Priority Pollutant: yes  
Other Environmental Laws:  
CERCLA: RQ 100\* lbs.  
RCRA Groundwater Monitoring: Methods 6010, 7520 / PQL 50, 400  
SARA Title III Section 313, Toxic Release: Conc. 0.1% / Threshold Standard  
NIOSH Recommendations:  
Occupational Health Guideline: 0445\*

**Nickel monoxide:** Carcinogen Status:  
IARC Rating: Group 1  
OSHA Carcinogen: not listed  
NTP Rating: listed

**Potassium hydroxide:** Clean Water Act:  
Hazardous Substances: RQ 1000 lbs.  
Other Environmental Laws:  
CERCLA: RQ 1000 lbs.  
NIOSH Recommendations:  
Occupational Health Guideline: 0523

**Cobalt:** Carcinogen Status:  
IARC Rating: Group 2B  
OSHA Carcinogen: not listed  
NTP Rating: not listed  
Other Environmental Laws:  
RCRA Groundwater Monitoring: Methods 6010, 7200, 720 / PQL 70, 500, 10  
SARA Title III Section 313, Toxic Release: Conc. 0.1% / Threshold Standard  
NIOSH Recommendations:  
Occupational Health Guideline: 0146

**Sodium hydroxide:** Clean Water Act:  
Hazardous Substances: RQ 1000 lbs.  
Other Environmental Laws:  
CERCLA: RQ 1000 lbs.  
NIOSH Recommendations:  
Occupational Health Guideline: 0565

**Polyamide:** TSCA: listed - UVCB - Flags: XU

**Polypropylene:** Carcinogen Status:  
IARC Rating: Group 3  
OSHA Carcinogen: not listed  
NTP Rating: not listed

**Manganese:** Other Environmental Laws:  
SARA Title III Section 313, Toxic Release: Conc. 1.0% / Threshold Standard  
NIOSH Recommendations:  
Occupational Health Guideline: 0379\*



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Zinc metal:

Clean Water Act:

Priority Pollutant: yes

Other Environmental Laws:

CERCLA: RQ 1000\* lbs.

RCRA Groundwater Monitoring: Methods 6010, 7950 / PQL 20, 50

SARA Title III Section 313, Toxic Release: Conc. 1.0% / Threshold Standard

Aluminium:

Other Environmental Laws:

SARA Title III Section 313, Toxic Release: Conc. 1.0% / Threshold Standard

NIOSH Recommendations:

Occupational Health Guideline: 0022

PVC:

Carcinogen Status:

IARC Rating: Group 3

OSHA Carcinogen: not listed

NTP Rating: not listed

Polyethylene:

Carcinogen Status:

IARC Rating: Group 3

OSHA Carcinogen: not listed

NTP Rating: not listed

**National regulations - U.S. State Regulations**

- Nickel: California Proposition 65: cancer  
Rhode Island HSL: listed
- Nickel dihydroxide: California Proposition 65: cancer  
Rhode Island HSL: listed
- Nickel monoxide: California Proposition 65: cancer  
Rhode Island HSL: listed
- Potassium hydroxide: California Proposition 65 code: not listed  
Delaware Air Quality Management List:  
DRQ: 1000 - RQ State: Federal Regulations Apply  
Idaho Air Pollutant List:  
Title 585: AAC: 0.1 - EL: 0.133 - OEL: 2 - Title 586: -  
Massachusetts Haz. Substance codes: 4,5 F8  
New York List of Hazardous Substances:  
RQ-Air: 1000 - RQ-Land: 100 - Note: No Note Associated with this chemical.  
Pennsylvania Haz. Substance code: E  
Washington Air Contaminant:  
Ceiling: 2 mg
- Cobalt: California Proposition 65: cancer  
Rhode Island HSL: listed
- Sodium hydroxide: Delaware Air Quality Management List:  
DRQ: 1000 - RQ State: Federal Regulations Apply  
Idaho Air Pollutant List:  
Title 585: AAC: 0,1 - EL: 0,133 - OEL: 2 - Title 586: AAAC: - EL: - OEF: -  
Massachusetts Haz. Substance codes: 2,4,5 F8 F9  
Minnesota Haz. Substance:  
Codes: AO - Ratings: - Status: Title III.  
New York List of Hazardous Substances:  
RQ-Air: 1000 - RQ-Land: 100 - Note: No Note Associated with this chemical.  
Pennsylvania Haz. Substance code: E  
Washington Air Contaminant: Ceiling: 2 mg
- Lithium hydroxide: California Proposition 65 code: not listed  
Minnesota Haz. Substance:  
Codes: I - Ratings: --

**National regulations - Great Britain**

Hazchem-Code: 2Y

**16. Other information**

Hazard rating systems:



NFPA Hazard Rating:  
Health: 0 (Minimal)  
Fire: 1 (Slight)  
Reactivity: 1 (Slight)

HMIS Version III Rating:  
Health: 0 (Minimal)  
Flammability: 1 (Slight)  
Physical Hazard: 1 (Slight)  
Personal Protection: X = Consult your supervisor

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	1
X	

Reason of change: Changes in section 1.3: Corporate headquarters

Date of first version: 1/17/2017



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### Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.