

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

<b>Name of the substance</b>	GARDENA Lithium Ion Batteries (less than 100 Wh)
<b>Identification number</b>	- (CAS number)
<b>Registration number</b>	-
<b>Synonyms</b>	None.
<b>Article No.</b>	Articles covered by this SDS are shown on the attached list.
<b>Issue date</b>	26-February-2014
<b>Version number</b>	04
<b>Revision date</b>	02-July-2015
<b>Supersedes date</b>	03-February-2015

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

<b>Identified uses</b>	Lithium ion battery.
<b>Uses advised against</b>	None known.

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

<b>Supplier/Manufacturer</b>	Gardena Manufacturing GmbH
<b>Address</b>	Hans-Lorensen-Straße 40, 89079 Ulm, Germany
<b>Telephone</b>	+49(0) 7 31 490 0
<b>Fax</b>	+49(0) 7 31 490 219
	www.husqvarnagroup.com

<b>1.4. Emergency telephone number</b>	+1-760-476-3961 (Access code 333721)
----------------------------------------	--------------------------------------

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

This product is an article according to REACH.

**Classification according to Regulation (EC) No 1272/2008 as amended**

Not applicable.

<b>Hazard summary</b>	Exposure to contents of an open or damaged battery: Contact with this material will cause burns to the skin, eyes and mucous membranes. May cause sensitisation by skin contact.
-----------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**2.2. Label elements****Label according to Regulation (EC) No. 1272/2008 as amended**

<b>Hazard pictograms</b>	None.
<b>Signal word</b>	None.
<b>Hazard statements</b>	Not assigned.

**Precautionary statements**

<b>Prevention</b>	
P102	Keep out of reach of children.
<b>Response</b>	Not assigned.
<b>Storage</b>	Store as indicated in Section 7.
<b>Disposal</b>	Dispose of waste and residues in accordance with local authority requirements.

<b>Supplemental label information</b>	None.
---------------------------------------	-------

<b>2.3. Other hazards</b>	None known.
---------------------------	-------------

**SECTION 3: Composition/information on ingredients****3.1. Substances**

## General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
GARDENA Lithium Ion Batteries (less than 100 Wh)	-	-	-	-	
<b>Classification:</b>	-				

## Constituents

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Lithium Cobaltic (LiCoO <sub>2</sub> )	20-40	-	-	-	
Iron	15-25	7439-89-6 231-096-4	-	-	
Aluminium	2-6	7429-90-5 231-072-3	-	-	
Graphite	10-20	7440-44-0 (natural) 7782-42-5 (synthetic) 231-153-3	-	-	
Copper	5-15	7440-50-8 231-159-6	-	-	
Organic electrolyte	10-20	-	-	-	

**Composition comments** All concentrations are in percent by weight.

## SECTION 4: First aid measures

**General information** Show this safety data sheet to the doctor in attendance.

### 4.1. Description of first aid measures

<b>Inhalation</b>	Exposure to contents of an open or damaged battery: Move to fresh air. Get medical attention if any discomfort continues.
<b>Skin contact</b>	Exposure to contents of an open or damaged battery: Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if any discomfort continues.
<b>Eye contact</b>	Exposure to contents of an open or damaged battery: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Exposure to contents of an open or damaged battery: Rinse mouth thoroughly. Get medical attention if any discomfort occurs.

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

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

## SECTION 5: Firefighting measures

**General fire hazards** The product is not flammable. Will burn if involved in a fire.

### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	Dry chemical powder. SPECIFIC RECOMMENDATIONS. Class D fire extinguisher.
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.

**5.2. Special hazards arising from the substance or mixture** Containers can burst violently when heated, due to excess pressure build-up. Fire may produce irritating, corrosive and/or toxic gases.

### 5.3. Advice for firefighters

<b>Special protective equipment for firefighters</b>	Wear self-contained breathing apparatus and protective clothing.
<b>Special fire fighting procedures</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

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

- For non-emergency personnel** Leak from a damaged or opened battery: Avoid contact with skin and eyes. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- For emergency responders** Wear protective clothing as described in Section 8 of this safety data sheet.

### 6.2. Environmental precautions

Do not contaminate water sources or sewer.

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

Leak from a damaged or opened battery: Wipe up with absorbent material (e.g. cloth, fleece). Place in a designated labeled waste container, dispose as hazardous waste.

### 6.4. Reference to other sections

For waste disposal, see section 13 of the SDS.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Do not allow conductive material to touch the battery terminals. A dangerous short-circuit may occur and cause battery failure and fire. Do not open, disassemble, crush or burn battery. Do not expose battery to extreme heat or fire. Elevated temperatures can result in reduced battery service life.

Observe good industrial hygiene practices. Wash hands thoroughly after handling.

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

Keep out of reach of children. Store in a cool, dry place. Store away from incompatible materials (See Section 10).

Storage temperature: between -20°C and 35°C. Relative Humidity range between 45% and 85%.

### 7.3. Specific end use(s)

Lithium ion battery.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

- Occupational exposure limits** No exposure limits noted for ingredient(s).
- Biological limit values** No biological exposure limits noted for the ingredient(s).
- Recommended monitoring procedures** Follow standard monitoring procedures.
- Derived no-effect level (DNEL)** Not available.
- Predicted no effect concentrations (PNECs)** Not available.

### Exposure guidelines

Airborne exposures to hazardous substances are not expected when product is used for its intended purpose.

### 8.2. Exposure controls

#### Appropriate engineering controls

Ventilation is not normally required. Leak from a damaged or opened battery: Provide adequate ventilation if fumes or vapours are generated.

#### Individual protection measures, such as personal protective equipment

- General information** Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
- Eye/face protection** Not necessary under normal conditions. Wear chemical goggles if handling an open or leaking battery.
- Skin protection**
- **Hand protection** Not necessary under normal conditions. Leak from a damaged or opened battery: Wear chemical-resistant, impervious gloves.
  - **Other** Not necessary under normal conditions.
- Respiratory protection** Not necessary under normal conditions.
- Thermal hazards** Not applicable.

#### Hygiene measures

Do not store food, drink and tobacco near the product. Practice good housekeeping.

#### Environmental exposure controls

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

- Appearance** Battery.
- Physical state** Solid.
- Form** Solid.
- Colour** Various.
- Odour** Odourless.
- Odour threshold** Not applicable.

<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	Not applicable.
<b>Initial boiling point and boiling range</b>	Not applicable.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not available.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	Insoluble.
<b>Partition coefficient (n-octanol/water)</b>	Not applicable.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	Not applicable.
<b>Viscosity</b>	Not applicable.
<b>Explosive properties</b>	Not available.
<b>Oxidizing properties</b>	Not available.
<b>9.2. Other information</b>	No relevant additional information available.

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	Not available.
<b>10.2. Chemical stability</b>	The product is stable under normal conditions of use, storage and transport.
<b>10.3. Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4. Conditions to avoid</b>	Do not allow conductive material to touch the battery terminals. A dangerous short-circuit may occur and cause battery failure and fire. Heat, sparks, flames, elevated temperatures.
<b>10.5. Incompatible materials</b>	Do not immerse in seawater or other high conductivity liquids.
<b>10.6. Hazardous decomposition products</b>	Irritating and/or toxic fumes and gases may be emitted upon the products decomposition.

## SECTION 11: Toxicological information

**General information** Low hazard for usual industrial or commercial handling by trained personnel.

### Information on likely routes of exposure

<b>Inhalation</b>	Not relevant, due to the form of the product. Exposure to contents of an open or damaged battery: May cause irritation to the respiratory system.
<b>Skin contact</b>	Not relevant, due to the form of the product. Exposure to contents of an open or damaged battery: Causes skin burns.
<b>Eye contact</b>	Not relevant, due to the form of the product. Exposure to contents of an open or damaged battery: Causes serious eye damage.
<b>Ingestion</b>	Not relevant, due to the form of the product. Exposure to contents of an open or damaged battery: Ingestion may cause irritation and malaise.

**Symptoms** Exposure to contents of an open or damaged battery: Causes skin and eye burns.

### 11.1. Information on toxicological effects

<b>Acute toxicity</b>	Expected to be a low hazard for usual industrial or commercial handling by trained personnel.
<b>Skin corrosion/irritation</b>	Exposure to contents of an open or damaged battery: Causes skin burns.
<b>Serious eye damage/eye irritation</b>	Exposure to contents of an open or damaged battery: Causes serious eye damage.
<b>Respiratory sensitisation</b>	No data available.
<b>Skin sensitisation</b>	Exposure to contents of an open or damaged battery: May cause an allergic skin reaction.
<b>Germ cell mutagenicity</b>	No data available.
<b>Carcinogenicity</b>	No data available.
<b>Reproductive toxicity</b>	No data available.
<b>Specific target organ toxicity - single exposure</b>	No data available.

<b>Specific target organ toxicity - repeated exposure</b>	No data available.
<b>Aspiration hazard</b>	No data available.
<b>Mixture versus substance information</b>	Not available.
<b>Other information</b>	No data available.

## SECTION 12: Ecological information

<b>12.1. Toxicity</b>	No ecological impacts expected under normal use conditions.
<b>12.2. Persistence and degradability</b>	No data available.
<b>12.3. Bioaccumulative potential</b>	No data available.
<b>Partition coefficient n-octanol/water (log Kow)</b>	Not applicable.
<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	Not available.
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.
<b>12.6. Other adverse effects</b>	No data available.

## SECTION 13: Disposal considerations

<b>13.1. Waste treatment methods</b>	
<b>Residual waste</b>	Dispose in accordance with applicable federal, state, and local regulations.
<b>Contaminated packaging</b>	Not applicable.
<b>EU waste code</b>	16 06 05
<b>Disposal methods/information</b>	Do not dispose in fire. Dispose waste and residues in accordance with applicable federal, state, and local regulations.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

<b>14.1. UN number</b>	UN3480
<b>14.2. UN proper shipping name</b>	LITHIUM ION BATTERIES
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	9
<b>Hazard No. (ADR)</b>	-
<b>Tunnel restriction code</b>	E
<b>14.4. Packing group</b>	II
<b>14.5. Environmental hazards</b>	No.
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling. May not be subject to ADR; See SP 188.

### RID

<b>14.1. UN number</b>	UN3480
<b>14.2. UN proper shipping name</b>	LITHIUM ION BATTERIES
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	9
<b>14.4. Packing group</b>	II
<b>14.5. Environmental hazards</b>	No
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling. May not be subject to RID; See SP 188.

### ADN

<b>14.1. UN number</b>	UN3480
------------------------	--------

14.2. UN proper shipping name LITHIUM ION BATTERIES  
14.3. Transport hazard class(es)  
Class 9  
Subsidiary risk -  
Label(s) 9  
14.4. Packing group II  
14.5. Environmental hazards No  
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.  
May not be subject to ADN; See SP 188.

#### IATA

14.1. UN number UN3480  
14.2. UN proper shipping name LITHIUM ION BATTERIES  
14.3. Transport hazard class(es)  
Class 9  
Subsidiary risk -  
Label(s) 9  
14.4. Packing group II  
14.5. Environmental hazards No  
ERG Code -  
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

#### IMDG

14.1. UN number UN3480  
14.2. UN proper shipping name LITHIUM ION BATTERIES  
14.3. Transport hazard class(es)  
Class 9  
Subsidiary risk -  
Label(s) 9  
14.4. Packing group II  
14.5. Environmental hazards  
Marine pollutant No.  
EmS F-A, S-I  
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.  
May not be subject to IMDG; See SP 188.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

General information May also be transported as UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT.

## SECTION 15: Regulatory information

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

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended**

Not listed.

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended**

Not listed.

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended**

Not listed.

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### **Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

#### **Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended**

Not listed.

**Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended**

Not listed.

#### **Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances**

Aluminium (CAS 7429-90-5)

**Directive 94/33/EC on the protection of young people at work**

Not listed.

#### **Other regulations**

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

#### **National regulations**

Not available.

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

Not applicable.

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

#### **List of abbreviations**

PBT: Persistent, bioaccumulative and toxic.

vPvB: Very Persistent and very Bioaccumulative.

TWA: Time weighted average.

STEL: Short term exposure limit.

#### **References**

Not available.

#### **Information on evaluation method leading to the classification of mixture**

This product is an article according to REACH.

#### **Full text of any H-statements not written out in full under Sections 2 to 15**

None.

#### **This SDS contains revisions in the following section(s):**

1

#### **Training information**

Follow training instructions when handling this material.

#### **Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available.

**Gardena Branded Li-Ion batteries less than 100 Wh**

---

1559	9824
1866	9825
2417	9826
2708	9839
4025	9840
4035	9842
4041	9850
4052	9851
4054	19060
4055	19061
4055	19064
4069	19090
4071	19100
4072	19110
4077	
5033	
8025	
8800	
8802	
8804	
8829	
8830	
8835	
8836	
8837	
8838	
8839	
8840	
8841	
8865	
8866	
8867	
8873	
8877	
8878	
8881	
8882	
8885	
8887	
8890	
8893	
8895	
8897	
8898	
9333	
9335	
9823	