



SAFETY DATA SHEET

1. Identification

Product identifier	GARDENA Lithium Ion Batteries (less than 100 Wh)
Other means of identification	
Article No.	Articles covered by this SDS are shown on the attached list.
Recommended use of the chemical and restrictions on use	
Recommended use	Lithium ion battery.
Restrictions on use	None known.
Details of manufacturer or importer	
Manufacturer	
Supplier	Husqvarna Australia Pty Ltd
Address	4 Pioneer Avenue, Tuggerah NSW 2252
Country	Australia
Telephone	+61 2 4352 7400
e-mail	mike.enderby@husqvarnagroup.com
Contact	Mike Enderby
Emergency	Contact Poisons Information Centre; phone 13 12 26

2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.

Label elements, including precautionary statements

Hazard symbol(s)	None.
Signal word	None.
Hazard Statement(s)	Not assigned.
Precautionary Statement(s)	
Prevention	Keep out of reach of children.
Response	Not assigned.
Storage	Store as indicated in Section 7.
Disposal	Dispose of waste and residues in accordance with local authority requirements.

Other hazards which do not result in classification None known.

Supplemental information None.

3. Composition/information on ingredients

Substance

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
GARDENA Lithium Ion Batteries (less than 100 Wh)	-	-

Constituents

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Lithium Cobaltic (LiCoO ₂)	-	20-40

Constituents

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Iron	7439-89-6	15-25
Aluminium	7429-90-5	2-6
Graphite	7440-44-0 (natural) 7782-42-5 (synthetic)	10-20
Copper	7440-50-8	5-15
Organic electrolyte	-	10-20

Composition comments All concentrations are in percent by weight.

4. First-aid measures

Description of necessary first aid measures

Inhalation	Exposure to contents of an open or damaged battery: Move to fresh air. Get medical attention if any discomfort continues.
Skin contact	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.
Eye contact	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.
Ingestion	Exposure to contents of an open or damaged battery: Rinse mouth thoroughly. Get medical attention if any discomfort occurs.

Personal protection for first-aid responders Show this safety data sheet to the doctor in attendance.

Symptoms caused by exposure Skin and eye burns. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Medical attention and special treatment Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

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

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

Special protective equipment and precautions for fire fighters Wear self-contained breathing apparatus and protective clothing.

Fire fighting equipment/instructions Use standard firefighting procedures and consider the hazards of other involved materials.

Hazchem Code 4W

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

6. Accidental release measures

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	Keep unnecessary personnel away. Wear protective clothing as described in Section 8 of this safety data sheet.

Environmental precautions Do not contaminate water sources or sewer.

Methods and materials 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.

Other issues relating to spills and releases Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

7. Handling and storage

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.

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%.

8. Exposure controls and personal protection

Control parameters

Follow standard monitoring procedures.

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

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

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, for example personal protective equipment (PPE)

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.

9. Physical and chemical properties

Appearance

Battery.

Physical state

Solid.

Form

Solid.

Colour

Various.

Odour

Odourless.

Odour threshold

Not applicable.

pH

Not applicable.

Melting point/freezing point

Not applicable.

Initial boiling point and boiling range

Not applicable.

Flash point

Not applicable.

Evaporation rate

Not applicable.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Explosive limit - lower (%)

Not available.

Explosive limit – upper (%)

Not available.

Vapour pressure

Not applicable.

Vapour density

Not applicable.

Relative density

Not available.

Solubility(ies)

Solubility (water)

Insoluble.

Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.

10. Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	The product is stable under normal conditions of use, storage and transport.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	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.
Incompatible materials	Do not immerse in seawater or other high conductivity liquids.
Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the products decomposition.

11. Toxicological information

Information on possible routes of exposure

Inhalation	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.
Skin contact	Not relevant, due to the form of the product. Exposure to contents of an open or damaged battery: Causes skin burns.
Eye contact	Not relevant, due to the form of the product. Exposure to contents of an open or damaged battery: Causes serious eye damage.
Ingestion	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 related to exposure Exposure to contents of an open or damaged battery: Causes skin and eye burns.

Acute toxicity Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Skin corrosion/irritation Exposure to contents of an open or damaged battery: Causes skin burns.

Serious eye damage/irritation Exposure to contents of an open or damaged battery: Causes serious eye damage.

Respiratory or skin sensitisation

Respiratory sensitisation	No data available.
Skin sensitisation	Exposure to contents of an open or damaged battery: May cause an allergic skin reaction.

Germ cell mutagenicity No data available.

Carcinogenicity No data available.

ACGIH Carcinogens

Aluminium (CAS 7429-90-5)

A4 Not classifiable as a human carcinogen.

Reproductive toxicity No data available.

Specific target organ toxicity - single exposure No data available.

Specific target organ toxicity - repeated exposure No data available.

Aspiration hazard No data available.

Chronic effects No data available.

Other information No data available.

12. Ecological information

Ecotoxicity No ecological impacts expected under normal use conditions.

Persistence and degradability No data available.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow) Not applicable.

Mobility in soil No data available.
Other adverse effects No data available.

13. Disposal considerations

Disposal methods Do not dispose in fire. Dispose waste and residues in accordance with applicable federal, state, and local regulations.
Residual waste Dispose in accordance with applicable federal, state, and local regulations.
Contaminated packaging Not applicable.

14. Transport information

ADG

UN number 3480
UN proper shipping name LITHIUM ION BATTERIES
Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group II
Environmental hazards No
Hazchem Code 4W
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

RID

UN number 3480
UN proper shipping name LITHIUM ION BATTERIES
Transport hazard class(es)
Class 9
Subsidiary risk -
Label(s) 9
Packing group II
Environmental hazards No
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

May not be subject to RID; See SP 188.

IATA

UN number 3480
UN proper shipping name LITHIUM ION BATTERIES
Transport hazard class(es)
Class 9
Subsidiary risk -
Label(s) 9
Packing group II
Environmental hazards No
ERG Code -
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number 3480
UN proper shipping name LITHIUM ION BATTERIES
Transport hazard class(es)
Class 9
Subsidiary risk -
Label(s) 9
Packing group II
Environmental hazards
Marine pollutant No.
EmS F-A, S-I
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

May not be subject to IMDG; See SP 188.

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.

15. Regulatory information

Safety, health and environmental regulations

National regulations

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): This product is listed in Appendix A (General Exemptions) and hence the Standard does not apply to the substances in the product.

Australia Medicines & Poisons Appendix A

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix B

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix C

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix D

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix E

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix F

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix G

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix H

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix I

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix J

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix K

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 2

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 3

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 4

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 5

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 6

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 7

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 8

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 9

Poisons schedule number not allocated.

Australia National Pollutant Inventory (NPI): Threshold quantity

Copper (CAS 7440-50-8)

10 TONNES/YR Threshold Category: 1

High Volume Industrial Chemicals (HVIC)

Aluminium (CAS 7429-90-5)

100000 - 999999 TONNES See the regulation for additional information.

Copper (CAS 7440-50-8)

10000 - 99999 TONNES See the regulation for additional information.

Graphite (CAS 7440-44-0 (natural) 7782-42-5 (synthetic))

1000 - 9999 TONNES See the regulation for additional information.

Iron (CAS 7439-89-6)

1000 - 9999 TONNES See the regulation for additional information.

Importation of Ozone Depleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Copper (CAS 7440-50-8)	2000 TONNES/YR Threshold Category: 2B
Graphite (CAS 7440-44-0 (natural) 7782-42-5 (synthetic))	400 TONNES/YR Threshold Category: 2A
Lithium Cobaltic (LiCoO ₂) (CAS -)	2000 TONNES/YR Threshold Category: 2B

Prohibited Carcinogenic Substances

Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Restricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information**Issue date** 06-August-2015**Revision date** -**Key abbreviations or acronyms used** TWA: Time weighted average.
STEL: Short term exposure limit.**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	9850
1866	9851
2417	19060
2708	19061
4025	19100
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