

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

1.1. Product identifier

Name of the substance	Husqvarna Lithium Ion Batteries (more than 100Wh)
Identification number	-
Registration number	-
Synonyms	None.
Battery pack identification	Articles covered by this SDS are shown on the attached list.
Issue date	04-December-2018
Version number	01
Revision date	-
Supersedes date	-

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

Identified uses	Lithium ion battery.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Company name	Husqvarna AB Drottninggatan 2 561 82 Huskvarna, Sweden
Telephone	+46 (0)36-14 65 00 +1-760-476-3961 (Access code 333721)

1.4. Emergency telephone number

General in EU	112 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
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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

The product is an article and therefore the classification requirements according to Regulation (EC) 1272/2008 as amended do not apply.

Hazard summary	Exposure to contents of an open or damaged battery: Harmful if swallowed. Causes skin and eye burns. May cause damage to organs through prolonged or repeated exposure. Possible risk of impaired fertility.
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2.2. Label elements

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

Hazard pictograms	None.
Signal word Hazard statements	None. Exempt (manufactured article).

Precautionary statements

Prevention	
P102	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.

Supplemental label information	None.
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2.3. Other hazards

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
Lithium ion battery (>100Wh)	100	-	-	-	
		-			
Classification:	-				

Anode

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Carbon		-	-	-	
		-			
Copper		-	-	-	
		-			

Binder

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Polyvinylidene Fluoride		-	-	-	
		-			

Case

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Iron		-	-	-	
		-			

Cathode

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Lithium transition metal oxidate		-	-	-	
		-			
Aluminium		-	-	-	
		-			
Graphite		-	-	-	
		-			
Nickel		-	-	-	
		-			

Electrolyte

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Organic carbonates		-	-	-	
		-			
Lithium chloride		-	-	-	
		-			
Lithium hexafluorophosphate		-	-	-	
		-			

Composition comments Ingredients shown are major constituents representative of various compositions for lithium ion cells. Content composition concentrations will vary with battery type/size.

SECTION 4: First aid measures

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

4.1. Description of 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.

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	
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.
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	
Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective clothing.
Special fire fighting procedures	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 levels (DNELs)	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. Observe good industrial hygiene practices. Wash thoroughly after handling.
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 available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
9.2. Other information	No relevant additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	The product is stable under normal conditions of use, storage and transport.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. 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.
10.5. Incompatible materials	Do not immerse in seawater or other high conductivity liquids.
10.6. Hazardous decomposition products	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	
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: May have a corrosive effect on the digestive canal.
Symptoms	Exposure to contents of an open or damaged battery: Causes skin and eye burns.

11.1. Information on toxicological effects

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/eye irritation	Exposure to contents of an open or damaged battery: Causes serious eye damage.
Respiratory sensitisation	No data available.
Skin sensitisation Germ cell mutagenicity	Exposure to contents of an open or damaged battery: May cause an allergic skin reaction.
Carcinogenicity	No data available.
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.
Mixture versus substance information	Not available.
Other information	No data available.

SECTION 12: Ecological information

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

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose in accordance with applicable federal, state, and local regulations.
Contaminated packaging	Not applicable.
EU waste code	16 06 05
Disposal methods/information	Do not dispose in fire. Dispose waste and residues in accordance with applicable federal, state, and local regulations.

SECTION 14: Transport information

ADR

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)	9A
Hazard No. (ADR)	-
Tunnel restriction code	E
14.4. Packing group	-
14.5. Environmental hazards	No
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

- 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) 9A
14.4. Packing group -
14.5. Environmental hazards No
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ADN

- 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) 9A
14.4. Packing group -
14.5. Environmental hazards No
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

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 -
14.4. Packing group -
14.5. Environmental hazards No.
ERG Code 9F
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 -
14.4. Packing group -
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.

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 (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 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

Lithium chloride (CAS -)

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 authorisation, 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.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed. **Other**

regulations

According to REACH Regulation 1907/2006 EC, the product is considered as an article. The preparation of a safety data sheet in accordance with Article 31 of the Regulation (EC) No.1907/2006 is not legally required for articles. The product is an article and therefore the classification requirements according to Regulation (EC) 1272/2008 as amended do not apply.

National regulations

The product has not been classified as dangerous according to the legislation in force.

15.2. Chemical safety assessment

Not applicable.

SECTION 16: Other information

List of abbreviations

CAS Number: Chemical Abstracts Service Registry Number.

References

European Treaty for international road transport of dangerous goods (ADR)
European Treaty for international transport of dangerous goods by inland seas, rivers, streams (ADN)
Rules for international transport of dangerous goods by railway (RID)
International Maritime Code for the Transport of Dangerous Goods (IMDG)
International Air Transport Association (IATA) Dangerous Goods Regulations

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.

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.

Husqvarna Branded Li-Ion Batteries - above 100 Wh