SAFETY DATA SHEET

According to EC 1907/2006 (REACH)

1. Identification of the substance/mixture and of the company/undertaking

MSDS : 25253 **Version number :** 1.0
Product code 12nc : 9898 031 29011
Supplier : E-ONE MOLI ENERGY

20000 Stewart Crescent
V2X 9E7 Maple Ridge
British Columbia
Canada
TEL:1-604-466-6654
FAX:1-604-466-6600

Tradename : LITHIUM ION BATTERY MODULE (M3538A) [99 WATT-HOUR]
General description : BATTERY
Use : Various
Date last verification : 2011-09-22
Revision date : 2011-09-22
Publication date : 2009-01-14
Supplier safety data sheet : Philips Electronics Nederland B.V., P.O. Box 218, 5600 MD Eindhoven, Tel. +31 40 2786069
Responsible department : dangerous.goods@philips.com
Emergency phone number : +31 (0)497-598315

2. Hazards identification

GHS Classification ((EC) No 1272/2008)

Not classified according to GHS classification.

GHS-Label : not applicable

Remarks on GHS-labelling none

EC Classification ((EC) No 67/548 or 1999/45)

Not classified according to EC classification.

EC-Label : not applicable

Remarks on EC-labelling none

Other hazards : Data not available.

3. Composition/information on ingredients

Component	CAS-no. / EC-no.	Index No. / Registration no.	Percentage(%)	GHS-label / EC-label
LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE				GHS08 H361fd Repr. 2 Xn;R: 62 63 Repr.Cat. 3
POLYVINYLIDENE FLUORIDE	24937-79-9			
* GRAPHITE POWDER	7782-42-5 231-955-3			* GHS02 GHS07 H228 Flam. sol. 1 H319 Eye irrit. 2 H335 STOT SE 3 * F,Xi;R: 11 36/37
LITHIUM HEXAFLUOROPHOSPHATE	21324-40-3 244-334-7			GHS05 H314 Skin corr. 1B C;R: 34
ORGANIC SOLVENT				

4. First aid measures

Skin : Not applicable.
Ingestion : Not applicable.
Inhalation : Not applicable.

Eyes	:	Not applicable.
Remarks first aid	:	None

5. Firefighting measures

Fire-extinguisher	:	determined by surrounding
Unsuitable fire-extinguisher	:	not traceable
Special fire-fighting equipment	:	In the event of fire, wear protective clothing and use breathing apparatus that is independent of the ambient air.
Hazardous decomposition products in fire	:	lithium oxide, cobalt oxide, carbon monoxide, hydrogen fluoride, manganese oxides, phosphorus oxide

6. Accidental release measures

Spillage procedure	:	not applicable
Emergency procedure	:	not applicable

7. Handling and storage

Local exhausting	:	Under normal circumstances not applicable.
Storage conditions	:	Store product dry, protected from proximity to other sources of heat.
Storage temperature	:	<25 ºC
Storage code (on behalf of PGS 15)	:	M4

8. Exposure controls/personal protection

Exposure limits :

applicable to: The Netherlands (20 ºC; 1013 mbar)

TWA(8 hours):	1 mg/m3		LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE(as manganese)
TWA(15 minutes):	3 mg/m3		LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE(as manganese)
No TWA has been laid down.			POLYVINYLIDENE FLUORIDE
TWA(8 hours):	2 mg/m3		GRAPHITE POWDER(as respirable dust)
No TWA has been laid down.			LITHIUM HEXAFLUOROPHOSPHATE
No TWA has been laid down.			ORGANIC SOLVENT

applicable to: Belgium (20 ºC; 1013 mbar)

TWA(8 hours):	0.2 mg/m3		LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE(as manganese)
TWA(8 hours):	2 mg/m3		GRAPHITE POWDER(as respirable dust)
TWA(8 hours):	2.5 mg/m3		LITHIUM HEXAFLUOROPHOSPHATE(as fluorine)

applicable to: Germany (20 ºC; 1013 mbar)

TWA(8 hours):	0.5 mg/m3		LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE(as manganese, inhalable dust)
TWA(8 hours):	3 mg/m3		GRAPHITE POWDER(as respirable dust)
TWA(8 hours):	1 mg/m3	S	LITHIUM HEXAFLUOROPHOSPHATE(as fluorine, inhalable dust)
TWA(15 minutes):	4 mg/m3	S	LITHIUM HEXAFLUOROPHOSPHATE(as fluorine, inhalable dust)

applicable to: United States of America (25 ºC; 1013 mbar)

TWA(8 hours):	0.2 mg/m3	LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE(as manganese)
TWA(8 hours):	0.02 mg/m3	LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE(as cobalt)
TWA(8 hours):	2 mg/m3	GRAPHITE POWDER(as respirable dust)
TWA(8 hours):	2.5 mg/m3	LITHIUM HEXAFLUOROPHOSPHATE(as fluorine)

applicable to: Sweden (20 ºC; 1013 mbar)

TWA(8 hours):	0.05 mg/m3	LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE(as cobalt, dust)
TWA(8 hours):	0.2 mg/m3	LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE(as manganese, dust)
TWA(8 hours):	0.1 mg/m3	LITHIUM COBALT OXIDE / LITHIUM

			MANGANESE OXIDE(as manganese, respirable dust)
TWA(8 hours):	5 mg/m3		GRAPHITE POWDER(as dust)
TWA(8 hours):	2 mg/m3		LITHIUM HEXAFLUOROPHOSPHATE(as fluorine)

applicable to: Switzerland (20 °C; 1013 mbar)

TWA(8 hours):	0.5 mg/m3		LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE(as manganese, inhalable dust)
TWA(8 hours):	0.05 mg/m3	S	LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE(as cobalt, inhalable dust)
TWA(8 hours):	2.5 mg/m3		GRAPHITE POWDER(as respirable dust)
TWA(8 hours):	5 mg/m3		GRAPHITE POWDER(as inhalable dust)
TWA(8 hours):	1 mg/m3	S	LITHIUM HEXAFLUOROPHOSPHATE(as fluorine, inhalable dust)
TWA(15 minutes):	4 mg/m3	S	LITHIUM HEXAFLUOROPHOSPHATE(as fluorine, inhalable dust)

applicable to: China (20 °C; 1013 mbar)

TWA(8 hours):	0.15 mg/m3		LITHIUM COBALT OXIDE / LITHIUM MANGANESE OXIDE(as manganese)
TWA(8 hours):	4 mg/m3		GRAPHITE POWDER(as dust)
TWA(8 hours):	2 mg/m3		GRAPHITE POWDER(as respirable dust)
TWA(8 hours):	2 mg/m3		LITHIUM HEXAFLUOROPHOSPHATE(as fluorine)

applicable to: European Union (20 °C; 1013 mbar)

TWA(8 hours):	2.5 mg/m3		LITHIUM HEXAFLUOROPHOSPHATE(as fluorine)

(20 °C; 1013 mbar)

C=Ceiling; S=Skin

Remarks exposure limits :

none

Odour threshold (20°C; 1013 mbar) :

not traceable

DNEL (Derived No Effect Level)

not traceable

PNEC (Predicted No Effect Concentration)

not traceable

Advised personal protection :

Hands	:	not applicable
Breakthrough time	:	not applicable
Eyes	:	not applicable
Inhalation	:	not applicable
Skin	:	none (when used normally)

9. Physical and chemical properties

Physical state	:	battery
Colour	:	type dependent
Odour	:	odourless
Vapor rate/range	:	not applicable
Boiling point/range	:	not traceable
Melting point/range	:	not traceable
Flash point/range	:	not applicable
Explosive limits	:	not applicable
Dust explosions possible in air	:	not applicable
Density	:	not traceable
Vapour pressure	:	not applicable
Solubility in water	:	not applicable
Solubility in fat	:	not applicable
pH	:	not applicable
Viscosity	:	not applicable
Autoignition temperature	:	not applicable
Decomposition temperature	:	not traceable
Electrostatic chargement	:	not traceable

10. Stability and reactivity

Conditions to avoid : none
Reactions with water : no
Hazardous reactions with : none
Hazardous decomposition products at heating : none

11. Toxicological information

Symptoms

Skin	local	:	Not applicable.
	general	:	Not applicable.
Ingestion	local	:	Not applicable.
	general	:	Not applicable.
Inhalation	local	:	Not applicable.
	general	:	Not applicable.
Eyes	local	:	Not applicable.
Remarks symptoms		:	None

Toxicity :
* LD-50: >2 g/kg (ORL-RAT), GRAPHITE POWDER

Method : OECD 401
Source : Supplier

Ames test : not traceable

12. Ecological information

Biological oxygen demand (5) : not traceable
Chemical oxygen demand : not traceable
Biological/chemical oxygen demand ratio : not traceable
Degradability : not traceable
Biochemical factor : not traceable
Log Po/w : not traceable
Henry Constant : not traceable

Ecotoxicity :
not traceable

Remarks on ecotoxicity : none

13. Disposal considerations

Remainder material has to be incinerated in_a proper installation or dumped on an approved landfill, in accordance with local and national legislation.

14. Transport information

ADR/RID
UN-number : 3480 LITHIUM ION BATTERIES
Hazard identification number : none
Class : 9
Packinggroup : II
Remarks : The product meets the criteria of ADR Special Provision 188, and may be transported as such.

IMO
UN-number : 3480 LITHIUM ION BATTERIES
Class : 9
Packinggroup : II
Marine pollutant : no
Remarks : The product meets the criteria of IMDG Special Provision 188, and may be transported as such.

IATA/ICAO
UN-number : 3480 LITHIUM ION BATTERIES
Class : 9
Packinggroup : II
Remarks : The product meets the criteria of IATA PACKING INSTRUCTION 965 - SECTION II, and may be transported as such.

15. Regulatory information

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

- Data not available.

16. Other information

Remarks on MSDS The presence of lithium-batteries gives an enlarged risk of fire.

Overview relevant H-sentences from all components in section 3 :

H228	Flammable solid.
H314	Causes severe skin burns.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.

Overview relevant hazard statements from all components in section 3 :

C	CORROSIVE
F	HIGHLY FLAMMABLE
Xi	IRRITANT
Xn	HARMFUL

Overview relevant R-sentences from all components in section 3 :

11	Highly flammable.
34	Causes burns.
36/37	Irritating to eyes and respiratory system.
62	Possible risk of impaired fertility.
63	Possible risk of harm to the unborn child.

* Point to alterations with regard to the previous version.
The information provided in this Material Safety Data Sheet is correct to the best of the knowledge, information and belief of Philips Electronics Nederland B.V. at the date of its printing.