SAFETY DATA SHEET

According to EC 1907/2006 (REACH)

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

MSDS : 22606
Product code 12nc : 9898 031 50161
Supplier : MICRO POWER ELECTRONICS, INC.

13955 SW Millikan Way
OR 97005 Beaverton
Oregon
United States of America
TEL:+1 503-693-7600
FAX:+1 503-648-9625

Tradename : FR3 BATTERY □ LONG LIFE LIMNO2 (989803150161)(989803150171) [6.72 G LITHIUM]
General description : BATTERY
Use : Various
Date last update : 2011-01-04
Publication date : 2005-06-17
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	Catalogue-no	Percentage(%)	GHS-label EC-label
LITHIUM	7439-93-2	231-102-5	003-001-00-4		GHS02 GHS05 H260 Water-react. 1 H314 Skin corr. 1B EUH014 F,C;R: 14/15 34
MANGANESE DIOXIDE	1313-13-9	215-202-6	025-001-00-3		GHS07 GHS08 H302 Acute tox. 4 H332 Acute tox. 4 H361fd Repr. 2 Xn;R: 62 63 20/22 Repr.Cat. 3
LITHIUM TRIFLUOROMETHANESULPHONATE	33454-82-9	251-528-5			GHS07 H315 Skin irrit. 2 H319 Eye irrit. 2 H335 STOT SE 3 Xi;R: 36/37/38
PROPYLENE CARBONATE	108-32-7	203-572-1	607-194-00-1		GHS07 H319 Eye irrit. 2 Xi;R: 36
DIMETHOXYETHANE, 1,2-	110-71-4	203-794-9	603-031-00-3		GHS02

Component	CAS-no	EC-no	Catalogue-no	Percentage(%)	GHS-label EC-label
					GHS07 GHS08 H225 Flam. liq. 2 H332 Acute tox. 4 H360FD Repr. 1B EUH019 F,T;R: 60 61 11 19 20 Repr.Cat. 2

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, manganese oxides, carbon monoxide, hydrogen fluoride, sulphur oxides

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 protected from proximity to other sources of heat, dry.
Storage code (on behalf of PGS 15) : M4

8. Exposure controls/personal protection

Exposure limits :

applicable to: The Netherlands (20 °C; 1013 mbar)

No TWA has been laid down.	LITHIUM
TWA(8 hours): 1 mg/m3	MANGANESE DIOXIDE(as manganese)
TWA(15 minutes): 3 mg/m3	MANGANESE DIOXIDE(as manganese)
No TWA has been laid down.	LITHIUM TRIFLUOROMETHANESULPHONATE
No TWA has been laid down.	PROPYLENE CARBONATE
No TWA has been laid down.	DIMETHOXYETHANE, 1,2-

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

TWA(8 hours): 0.2 mg/m3	MANGANESE DIOXIDE(as manganese)

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

TWA(8 hours): 0.5 mg/m3	MANGANESE DIOXIDE(as manganese, inhalable dust)

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

TWA(8 hours): 0.2 mg/m3	MANGANESE DIOXIDE(as manganese)

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

TWA(8 hours): 0.2 mg/m3	MANGANESE DIOXIDE(as manganese, dust)
TWA(8 hours): 0.1 mg/m3	MANGANESE DIOXIDE(as manganese, respirable dust)

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

TWA(8 hours): 0.5 mg/m3	MANGANESE DIOXIDE(as manganese, inhalable dust)

applicable to: **China (20 °C; 1013 mbar)**
TWA(8 hours): 0.15 mg/m3 MANGANESE DIOXIDE

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: >3.478 g/kg (ORL-RAT), MANGANESE DIOXIDE	**Source**	:	ChemDat (Merck)
LD-50: 29 g/kg (ORL-RAT), PROPYLENE CARBONATE	**Source**	:	IUCLID
LD-50: 5.37 mg/kg (ORL-RAT), DIMETHOXYETHANE, 1,2-	**Source**	:	ChemDat (Merck)
LD-50: 3.2 g/kg (ORL-MUS), DIMETHOXYETHANE, 1,2-	**Source**	:	Sigma-Aldrich
LD-50: >5 g/kg (SKN-RAT), DIMETHOXYETHANE, 1,2-	**Source**	:	ChemDat (Merck)

Ames test : negative PROPYLENE CARBONATE	**Source**	:	IUCLID
negative DIMETHOXYETHANE, 1,2-	**Source**	:	ChemDat (Merck)

12. Ecological information

Biological oxygen demand (5)	:	0.025 g/g PROPYLENE CARBONATE	**Source**	: IUCLID
Chemical oxygen demand	:	1.29 g/g PROPYLENE CARBONATE	**Source**	: IUCLID
Biological(5)/chemical oxygen demand ratio	:	0.019 PROPYLENE CARBONATE		
Degradability	:	not biodegradable MANGANESE DIOXIDE	**Source**	: ACROS
		readily biodegradable PROPYLENE CARBONATE	**Source**	: IUCLID
Biochemical factor	:	not traceable		
Log Po/w	:	<0 MANGANESE DIOXIDE	**Source**	: IUCLID
		-0.49 LITHIUM TRIFLUOROMETHANESULPHONATE	**Source**	: Easi View
		-0.48 PROPYLENE CARBONATE	**Source**	: IUCLID
		-0.21 DIMETHOXYETHANE, 1,2-	**Source**	: ChemDat (Merck)
Henry Constant	:	9.92E-8 atm m3/mol LITHIUM TRIFLUOROMETHANESULPHONATE	**Source**	: Easi View
		3.63E-4 atm m3/mol PROPYLENE CARBONATE	**Source**	: Easi View

Ecotoxicity :

LC-50: 5300 mg/l/96H (Fish), PROPYLENE CARBONATE	**Source**	: IUCLID
EC-50: >500 mg/l/48H (Daphnia), PROPYLENE CARBONATE	**Source**	: IUCLID
IC-50: >500 mg/l/72H (Algae), PROPYLENE CARBONATE	**Source**	: IUCLID
LC-50: >500 mg/l/96H (Fish), DIMETHOXYETHANE, 1,2-	**Source**	: ACROS

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**	:	3090 LITHIUM METAL BATTERIES
	Hazard identification number	:	none
	Class	:	9
	Packinggroup	:	II
IMO	**UN-number**	:	3090 LITHIUM METAL BATTERIES
	Class	:	9
	Packinggroup	:	II
	Marine pollutant	:	no
IATA/ICAO	**UN-number**	:	3090 LITHIUM METAL BATTERIES
	Class	:	9
	Packinggroup	:	II
	*** Remarks**	:	The product must be transported in accordance with the regulations of IATA PACKING INSTRUCTION 968 - SECTION I.

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 :

H225	Highly flammable liquid and vapour.
H260	In contact with water releases flammable gases which may ignite spontaneously.
H302	Harmful if swallowed.
H314	Causes severe skin burns.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H360FD	May damage fertility. May damage the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
EUH014	Reacts violently with water.
EUH019	May form explosive peroxides.

Overview relevant hazard statements from all components in section 3 :

C	CORROSIVE
F	HIGHLY FLAMMABLE
T	TOXIC
Xi	IRRITANT
Xn	HARMFUL

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

11	Highly flammable.
14/15	Reacts violently with water, liberating extremely flammable gases.
19	May form explosive peroxides.
20	Harmful by inhalation.
20/22	Harmful by inhalation and if swallowed.
34	Causes burns.
36	Irritating to eyes.
36/37/38	Irritating to eyes, respiratory system and skin.
60	May impair fertility.
61	May cause harm to the unborn child.
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.