SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Authoring date: 19-Nov-2025
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Revision Number: 10

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

1.1. Product identifier

Safety data sheet number 25261

12NC **989803121381**

Product Name **HS1/FRX LIMNO2 BATTERY (M5070A) : LITHIUM METAL BATTERIES WITH CR123A PANASONIC CELLS [5.40 G LITHIUM]**

Other means of identification

Article Yes
As an article, this product presents negligible health and physical hazards under reasonably anticipated conditions of use. Accordingly, a Safety Data Sheet (SDS) is not required for this product under the standards cited above. This document is prepared as a courtesy to provide persons using this product with additional safety and regulatory information.

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

Recommended use No information available

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

supplier
PANASONIC ENERGY CO., LTD
1-1, Matsushita-cho
Moriguchi
570-8511 Osaka
Japan
Tel.: +81-6-6994-4409

For further information, please contact

E-Mail address hazcom@philips.com

1.4. Emergency telephone number

Emergency Telephone +31 497 598315(EMERG)

Emergency Telephone - §45 - (EC)1272/2008	
Europe	**112**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
This product is an article and, in its current form, is classified as not hazardous.

2.2. Label elements
Not classified

Hazard statements
Not classified

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
PROPYLENE CARBONATE 108-32-7	-	01-2119537232-48	203-572-1	Eye Irrit. 2 (H319)	-	-	-
MANGANESE DIOXIDE 1313-13-9	-	01-2119452801-43 01-2120115207-68	215-202-6	Acute Tox. 4 (H332) Acute Tox. 4 (H302)	-	-	-
LITHIUM 7439-93-2	-	01-2120775463-48 01-2119966143-38	231-102-5	Water-react. 1 (H260) Skin Corr. 1B (H314) (EUH014)	-	-	-
DIMETHOXYETHANE, 1,2- 110-71-4	-	01-2119485981-24 01-2120803346-61	203-794-9	Flam. Liq. 2 (H225) Repr. 1B (H360FD) Acute Tox. 4 (H332) (EUH019)	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate
No information available

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
PROPYLENE CARBONATE 108-32-7	29000	3000	No data available	No data available	No data available
MANGANESE DIOXIDE 1313-13-9	9000	No data available	No data available	No data available	No data available
DIMETHOXYETHANE, 1,2- 110-71-4	4000	1000	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation No hazards which require special first aid measures.

Eye contact No hazards which require special first aid measures.

Skin contact No hazards which require special first aid measures.

Ingestion No hazards which require special first aid measures.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

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

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Special powder against metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1® or Met-L-X® powder.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media DO NOT USE WATER, FOAM OR CO2.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO2). Metal oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow to enter into soil/subsoil. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Protect from sunlight.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

Other information
Lithium batteries are highly flammable. Caution! Increased risk of explosion and fire.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical name	European Union	Austria	Belgium
MANGANESE DIOXIDE 1313-13-9	(2017/164/EU) TWA: 0.05 mg/m³ (respirable fraction)	TWA-TMW: 0.2 mg/m³ (inhalable fraction) STEL-KZGW: 1.6 mg/m³ (inhalable fraction - 4 X 15 min)	TWA: 0.05 mg/m³

Chemical name	Bulgaria	Croatia	Cyprus
MANGANESE DIOXIDE 1313-13-9	TWA: 0.05 mg/m³ (respirable fraction,)	TWA-GVI: 0.2 mg/m³ (total dust, inhalable fraction] TWA-GVI: 0.05 mg/m³ (respirable dust; fraction that can be inhaled into the lungs]	TWA: 0.2 mg/m³ (inhalable fraction) TWA: 0.05 mg/m³ (respirable fraction)

Chemical name	Czech Republic	Denmark	Estonia
MANGANESE DIOXIDE	TWA: 1 mg/m³ Horní hranice: 2 mg/m³	TWA: 0.2 mg/m³ (inhalable) TWA: 0.05 mg/m³ (respirable) STEL: 0.4 mg/m³ (inhalable) STEL: 0.1 mg/m³ (respirable)	TWA: 0.2 mg/m³ (total dust) TWA: 0.05 mg/m³ (respirable dust)

Chemical name	Finland	France	Germany
PROPYLENE CARBONATE	-	-	TRGS 900: TWA-AGW: 2 ppm TRGS 900: TWA-AGW: 8.5 mg/m³ TWA-MAK: 2 ppm TWA-MAK: 8.5 mg/m³ Obergrenze: 2 ppm Obergrenze: 8.5 mg/m³
MANGANESE DIOXIDE	TWA: 0.02 mg/m³ (respirable dust)	-	TRGS 900: TWA-AGW: 0.2 mg/m³ (inhalable fraction; exposure factor 8) TRGS 900: TWA-AGW: 0.02 mg/m³ (respirable fraction; exposure factor 8) TWA-MAK: 0.2 mg/m³ (inhalable fraction) TWA-MAK: 0.02 mg/m³ (respirable fraction) Obergrenze: 1.6 mg/m³ (inhalable fraction) Obergrenze: 0.16 mg/m³ (respirable fraction)

Chemical name	Greece	Hungary	Ireland
MANGANESE DIOXIDE	TWA: 0.2 mg/m³ (inhalable fraction) TWA: 0.05 mg/m³ (respirable fraction)	-	TWA: 0.2 mg/m³ (inhalable fraction) TWA: 0.05 mg/m³ (respirable fraction) STEL: 0.6 mg/m³ (inhalable fraction) STEL: 0.15 mg/m³ (respirable fraction)

Chemical name	Italy	Latvia	Lithuania
PROPYLENE CARBONATE	-	TWA: 2 mg/m³	TWA-IPRD: 7 mg/m³
MANGANESE DIOXIDE	TWA: 0.05 mg/m³ (respirable fraction) AIDII TWA: 0.1 mg/m³ (inhalable fraction)	TWA: 0.3 mg/m³	TWA-IPRD: 0.2 mg/m³ (inhalable fraction) TWA-IPRD: 0.05 mg/m³ (respirable fraction)
DIMETHOXYETHANE, 1,2-	-	TWA: 10 mg/m³	-

Chemical name	Luxembourg	Malta	Netherlands
MANGANESE DIOXIDE	TWA: 0.2 mg/m³ TWA: 0.05 mg/m³	TWA: 0.2 mg/m³ TWA: 0.5 mg/m³	TWA: 0.2 mg/m³ (inhalable dust) TWA: 0.05 mg/m³ (respirable fraction)

Chemical name	Norway	Poland	Portugal
MANGANESE DIOXIDE	TWA: 0.2 mg/m³ (inhalable fraction) TWA: 0.05 mg/m³ (respirable fraction) STEL: 0.6 ppm (inhalable fraction) STEL: 0.15 mg/m³ (respirable fraction)	TWA-NDS: 0.2 mg/m³ (inhalable fraction) TWA-NDS: 0.05 mg/m³ (respirable fraction)	TWA-VLE-MP: 0.2 mg/m³ (inhalable fraction) TWA-VLE-MP: 0.05 mg/m³ (respirable fraction)
DIMETHOXYETHANE, 1,2-	-	TWA-NDS: 10 mg/m³ Oznaczenie skóry (*)	-

Chemical name	Romania	Slovakia	Slovenia
MANGANESE DIOXIDE	TWA: 0.2 mg/m³ (inhalable fraction) TWA: 0.05 mg/m³ (respirable fraction)	TWA: 0.2 mg/m³ (inhalable fraction) TWA: 0.2 mg/m³ (respirable fraction)	TWA: 0.05 mg/m³ (respirable fraction) STEL: 0.4 mg/m³ (respirable fraction)

Chemical name	Spain	Sweden
MANGANESE DIOXIDE	TWA-VLA-ED: 0.2 mg/m³ (inhalable fraction) TWA-VLA-ED: 0.05 mg/m³ (respirable fraction)	TLV-NGV: 0.2 mg/m³ (inhalable fraction) TLV-NGV: 0.05 mg/m³ (respirable fraction)
LITHIUM	-	Binding STEL-Bindande KGV: 0.02 mg/m³ (inhalable fraction)

Chemical name	Switzerland	United Kingdom
PROPYLENE CARBONATE	TWA-MAK: 6 ppm TWA-MAK: 25.5 mg/m³ STEL-KZGW: 6 ppm STEL-KZGW: 25.5 mg/m³	-
MANGANESE DIOXIDE	TWA-MAK: 0.5 mg/m³ (inhalable dust)	TWA: 0.2 mg/m³ (inhalable fraction) TWA: 0.05 mg/m³ (respirable fraction) STEL: 0.6 mg/m³ (inhalable fraction) STEL: 0.15 mg/m³ (respirable fraction)
LITHIUM	TWA-MAK: 0.2 mg/m³ (inhalable dust) STEL-KZGW: 0.2 mg/m³ (inhalable dust)	-

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
MANGANESE DIOXIDE 1313-13-9	-	20 µg/L (blood - whole blood not provided) (-)	-	-	-
Chemical name	**Denmark**	**Finland**	**France**	**Germany DFG**	**Germany TRGS**
MANGANESE DIOXIDE 1313-13-9	-	-	-	15 µg/L - BAR (end of exposure or end of shift) blood 15 µg/L - BAR (for long-term exposures: at the end of the shift after several shifts) blood	-
LITHIUM 7439-93-2	-	-	-	50 µg/L - BAR (not fixed) urine	-

Derived No Effect Level (DNEL) No information available.

Derived No Effect Level (DNEL)

PROPYLENE CARBONATE (108-32-7)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor	Reference sources
long-term	Inhalation	70.53 mg/m³	systemic	ECHA
long-term	Inhalation	20 mg/m³	local	ECHA
long-term	Dermal	20 mg/kg bw/day	systemic	ECHA

MANGANESE DIOXIDE (1313-13-9)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor	Reference sources
long-term	Inhalation	0.2 mg/m³	systemic	ECHA
long-term	Dermal	0.004 mg/kg bw/day	systemic	ECHA

LITHIUM (7439-93-2)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor	Reference sources
long-term	Inhalation	4.2 mg/m³	systemic	ECHA
long-term	Dermal	12 mg/kg bw/day	systemic	ECHA

DIMETHOXYETHANE, 1,2- (110-71-4)

Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor	Reference sources
long-term	Inhalation	3.1 mg/m³	systemic	ECHA
long-term	Dermal	1.1 mg/kg bw/day	systemic	ECHA

Predicted No Effect Concentration (PNEC) No information available.

Predicted No Effect Concentration (PNEC)

PROPYLENE CARBONATE (108-32-7)

Environmental compartment	Predicted No Effect Concentration (PNEC)	Remarks	Reference sources

Freshwater	0.9 mg/l		ECHA
aquatic, intermittent release	9 mg/l		ECHA
Marine water	0.09 mg/l		ECHA
Microorganisms in sewage treatment	7400 mg/l		ECHA
Soil	0.81 mg/kg soil dw		ECHA

MANGANESE DIOXIDE (1313-13-9)

Environmental compartment	Predicted No Effect Concentration (PNEC)	Remarks	Reference sources
Freshwater	0 mg/l		ECHA
Marine water	0 mg/l		ECHA
aquatic, intermittent release	0.001 mg/l		ECHA
Freshwater sediment	0.037 mg/kg sediment dw		ECHA
Marine sediment	0.004 mg/kg sediment dw		ECHA
Soil	0.028 mg/kg soil dw		ECHA

LITHIUM (7439-93-2)

Environmental compartment	Predicted No Effect Concentration (PNEC)	Remarks	Reference sources
Freshwater	1.65 mg/l		ECHA
aquatic, intermittent release	1.65 mg/l		ECHA
Marine water	0.165 mg/l		ECHA
Microorganisms in sewage treatment	22.94 mg/l		ECHA
Freshwater sediment	6.6 mg/kg sediment dw		ECHA
Marine sediment	0.66 mg/kg sediment dw		ECHA
Soil	0.26 mg/kg soil dw		ECHA

DIMETHOXYETHANE, 1,2- (110-71-4)

Environmental compartment	Predicted No Effect Concentration (PNEC)	Remarks	Reference sources
Freshwater	6.4 mg/l		ECHA
Marine water	0.64 mg/l		ECHA
aquatic, intermittent release	40 mg/l		ECHA
Microorganisms in sewage treatment	20 mg/l		ECHA
Freshwater sediment	25.7 mg/kg sediment dw		ECHA
Marine sediment	2.57 mg/kg sediment dw		ECHA
Soil	1.39 mg/kg soil dw		ECHA

8.2. Exposure controls

Personal protective equipment

Eye/face protection No special protective equipment required.

Hand protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Electrical batteries and accumulators
Color	Various colors
Odor	Odorless.
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point		None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH		None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity		None known
Dynamic viscosity	No data available	None known
Water solubility	No data available	Not applicable
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapor pressure	No data available	None known
Relative density	No data available	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapor density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Sensitivity to mechanical impact.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity
No information available

Component Information
PROPYLENE CARBONATE (108-32-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results	Reference sources
OECD 401	Rat	Oral	> 5000 mg/kg		LD50:	ECHA
OECD 402	Rabbit	Dermal	> 2000 mg/kg		LD50:	ECHA

MANGANESE DIOXIDE (1313-13-9)

Method	Species	Exposure route	Effective dose	Exposure time	Results	Reference sources
not traceable	Rat	Oral	3480 mg/kg		LD50:	GESTIS
not traceable	Rat	Inhalation Dust/Mist	> 1.5 mg/L	4 hours	LC50:	not traceable

DIMETHOXYETHANE, 1,2- (110-71-4)

Method	Species	Exposure route	Effective dose	Exposure time	Results	Reference sources
OECD 401	Rat	Oral	5370 mg/kg		LD50:	ECHA
OECD 403	Rat	Inhalation Vapor	> 20 - < 63 mg/L	6 hours	LC50:	ECHA
OECD 402	Rabbit	Dermal	> 5000 mg/kg		LD50:	ECHA

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
PROPYLENE CARBONATE	= 29000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
MANGANESE DIOXIDE	= 9000 mg/kg (Rat)	-	> 1500 mg/m³ (Rat) 4 h
DIMETHOXYETHANE, 1,2-	> 4000 mg/kg (Rat)	1000 - 2000 mg/kg (Rabbit)	20 - 63 mg/L (Rat) 6 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Method	Species	Exposure route	Results
			Not applicable

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

Chemical name	European Union
DIMETHOXYETHANE, 1,2-	Repr. 1B

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

PROPYLENE CARBONATE (108-32-7)

Method	Species	Effective dose	Endpoint type	Exposure time	Results
not traceable	Fish	> 1000 mg/L	LC50	96 hour(s)	
not traceable	Daphnia	> 1000 mg/L	EC50	48 hour(s)	
OECD 201	Algae	900 mg/L	NOEC	72 hour(s)	

LITHIUM (7439-93-2)

Method	Species	Effective dose	Endpoint type	Exposure time	Results
OECD 203	Fish	109 mg/L	LC50	96 hour(s)	
OECD 202	Daphnia	19.1 mg/L	EC50	48 hour(s)	
OECD 201	Algae	41.62 mg/L	IC50:	72 hour(s)	

DIMETHOXYETHANE, 1,2- (110-71-4)

Method	Species	Effective dose	Endpoint type	Exposure time	Results
OECD 203	Fish	> 5000 mg/L	LC50	96 hour(s)	
OECD 202	Daphnia	4000 mg/L	EC50	48 hour(s)	

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
PROPYLENE CARBONATE	EC50: >500mg/L (72h, Desmodesmus subspicatus)	LC50: >1000mg/L (96h, Cyprinus carpio)	-	EC50: >500mg/L (48h, Daphnia magna)

12.2. Persistence and degradability

Persistence and degradability No information available.

Chemical name	Code	Method	Reference sources
PROPYLENE CARBONATE	Readily biodegradable (according to OECD criteria).	OECD 301B	ECHA
MANGANESE DIOXIDE	No information available.	not traceable	not traceable
LITHIUM	No information available.	not traceable	not traceable
DIMETHOXYETHANE, 1,2-	None	OECD 302B	ECHA

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
PROPYLENE CARBONATE	0.48
MANGANESE DIOXIDE	< 0
LITHIUM	-0.77
DIMETHOXYETHANE, 1,2-	-0.21

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

Chemical name	PBT and vPvB assessment
PROPYLENE CARBONATE	The substance is not PBT / vPvB
MANGANESE DIOXIDE	The substance is not PBT / vPvB
LITHIUM	PBT assessment does not apply
DIMETHOXYETHANE, 1,2-	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number UN3090
14.2 UN proper shipping name Lithium metal batteries
14.3 Transport hazard class(es) 9
14.4 Packing group Not regulated
Description UN3090, Lithium metal batteries, 9
14.5 Environmental hazards Not applicable

14.6 Special precautions for user

Special Provisions	A88, A99, A154, A164, A183, A201, A213, A334, A802
Packing instructions - passenger	Forbidden
Packing instructions - cargo only	See 968
ERG Code	12FZ

IMDG

14.1 UN number or ID number	UN3090
14.2 UN proper shipping name	Lithium metal batteries
14.3 Transport hazard class(es)	9
14.4 Packing group	Not regulated
Description	UN3090, Lithium metal batteries, 9
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	188, 230, 310, 376, 377, 384, 387
Packing instructions	P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906
EmS-No.	F-A, S-I
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	UN3090
14.2 UN proper shipping name	Lithium metal batteries
14.3 Transport hazard class(es)	9
14.4 Packing group	Not regulated
Description	UN3090, Lithium metal batteries, 9
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	188, 230, 310, 376, 377, 387, 636
Packing instructions	P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906
Classification code	M4

ADR

14.1 UN number or ID number	UN3090
14.2 UN proper shipping name	Lithium metal batteries
14.3 Transport hazard class(es)	9
14.4 Packing group	Not regulated
Description	UN3090, Lithium metal batteries, 9, (E)
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	188, 230, 310, 376, 377, 387, 636,
Packing instructions	P903, P908, P910, P911, P909, LP903, LP904, LP905, LP906
Classification code	M4
Tunnel restriction code	(E)

SECTION 15: Regulatory information

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

Chemical name	French RG number
MANGANESE DIOXIDE 1313-13-9	RG 39
DIMETHOXYETHANE, 1,2- 110-71-4	RG 84

Netherlands
Water contaminating class (Netherlands)

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
MANGANESE DIOXIDE	-	-	Fertility Category 2 Development Category 2
DIMETHOXYETHANE, 1,2-	-	-	Fertility Category 1B Development Category 1B

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
DIMETHOXYETHANE, 1,2- - 110-71-4	30. 75.	-

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
TCSI	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substance Inventory
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend
SVHC: Substances of Very High Concern for Authorization:

Legend	**Section 8: Exposure controls/personal protection**		
TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers	#	Simple asphyxiant
**	Hazard Designation		

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 19-Nov-2025

Revision Note ***Indicates updated data since last publication

Further information	Lithium batteries are highly flammable. Caution! Increased risk of explosion and fire.

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet