MLI Ultra 24/6000 Battery

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 9-3-2022 Revision date: 6-5-2024 Supersedes version of: 26-10-2023 Version: 2.1

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

1.1. Product identifier

Product form : Article
Product name : MLI Ultra 24/6000 Battery

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

1.2.1. Relevant identified uses

Intended for general public
Main use category : Consumer use,Professional use,Industrial use
Use of the substance/mixture : Electrical batteries and accumulators

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

EU (EMEA):
Mastervolt BV
Snijdersbergweg 93,
1105AN Amsterdam
The Netherlands
Tel INT.: +31 20 3422100
info@mastervolt.com

USA (America's):
Power Products, LLC
N85 W12545 Westbrook Crossing
Menomonee Falls, WI 53051
United States of America
Tel. +1-262-293-0600

1.4. Emergency telephone number

Emergency number : EU Tel INT.: +31 20 3422100 USA Tel INT.: +1 262-293-0600

Country/Area	Organisation/Company	Address	Emergency number	Comment
Netherlands	Nationaal Vergiftigingen Informatie Centrum (NVIC)	Huispostnummer Q03.2.315 Postbus 85500 3508 GA Utrecht	+31 88 755 80 00	Only for the purpose of informing medical personnel in cases of acute intoxications (24 hours a day, 7 days a week)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 1 H318
Specific target organ toxicity – Repeated exposure, Category 2 H373
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No hazards in case of an intact battery and using according the instructions. The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

2.2. Label elements

According to EC directives or the corresponding national regulations there is no labelling obligation for this product.
No labelling applicable

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Phosphoric acid, iron(2+) lithium salt (1:1:1)	CAS-No.: 15365-14-7 EC-No.: 476-700-9 REACH-no: 01-0000019929-51	47,9	Not classified
Graphite	CAS-No.: 7782-42-5 EC-No.: 231-955-3 REACH-no: 01-2119486977-12	23,7	Not classified
Aluminium	CAS-No.: 7429-90-5 EC-No.: 231-072-3 REACH-no: 01-2119529243-45	12,6	Not classified
copper	CAS-No.: 7440-50-8 EC-No.: 231-159-6 REACH-no: 01-2119480154-42	9,2	Not classified
Lithium hexafluorophosphate(1-)	CAS-No.: 21324-40-3 EC-No.: 244-334-7 REACH-no: 01-2119383485-29/01-2119962901	3,6	Acute Tox. 3 (Oral), H301 (ATE=100 mg/kg bodyweight) Skin Corr. 1A, H314 STOT RE 1, H372
PE	CAS-No.: 9002-88-4	3	Not classified

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : This information is of relevance only if the battery is broken and this results in a direct contact with the ingredients. If medical advice is needed, have product container or label at hand. Seek medical attention immediately. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. Remove/Take off immediately all contaminated clothing. Get immediate medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. immediate medical advice. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting without medical advice. immediate medical advice.

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

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation : Inhalation of material from a sealed battery is not an expected exposure route. Vapors or mists from a ruptured battery may cause respiratory irritation.
Symptoms/effects after skin contact : Contact between the battery and skin will not cause any harm. Skin contact with positive and negative terminals of high voltages may cause burns to the skin.
Skin contact with a ruptured or shorted battery can cause chemical burns or irritation upon contact with the skin.
Symptoms/effects after eye contact : Contact between the battery and eye will not cause any harm. Eye contact with the contents of a ruptured battery can cause severe irritation to the eye.
Symptoms/effects after ingestion : Swallowing of material from a sealed battery is not an expected exposure route. Swallowing mists from a ruptured battery may cause respiratory irritation, chemical burns of the mouth and gastrointestinal tract irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry powder. Carbon dioxide. Sand.
Unsuitable extinguishing media : Water.

5.2. Special hazards arising from the substance or mixture

Explosion hazard : Explosion risk in case of fire.
Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon oxides (CO, CO2).

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : If the battery material is released, remove personnel from the area until fumes dissipate. Ventilate the area to remove the hazardous gases. Leave the area and allow the batteries to cool. Avoid skin and eye contact or inhalation of vapors.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful. Concerning personal protective equipment to use, see section 8. Provide good ventilation in process area to prevent formation of vapour.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Charging:
There is a possible risk of electric shock from charging equipment and from strings of series connected batteries, whether or not being charged. Shut-off power to chargers whenever not in use and before detachment of any circuit connections. Charging space should be ventilated.

Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container closed when not in use.

Incompatible products : Strong acids. Strong bases. Strong oxidizing agent.

Heat and ignition sources : Keep away from heat and direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

copper (7440-50-8)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Copper
IOEL TWA	0,01 mg/m³ (respirable fraction)
Remark	(Year of adoption 2014)
Regulatory reference	SCOEL Recommendations
Netherlands - Occupational Exposure Limits	
Local name	Koper
Grenswaarde TGG 8H (mg/m³)	0,1 mg/m³ en anorganische koperverbindingen (inhaleerbaar)
Regulatory reference	Arbeidsomstandighedenregeling 2024

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station. hazards in case of damaged / ruptured battery.

8.2.2. Personal protection equipment

Personal protective equipment:
Gloves. Safety glasses. Protective clothing.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:
Safety glasses. DIN EN 166

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing. CEN : EN 340; EN 369; EN 465

Hand protection:
Wear suitable gloves resistant to chemical penetration. Chemical resistant gloves (according to European standard NF ISO 374-1 or equivalent)

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Gloves	Polyvinylchloride (PVC), Nitrile rubber (NBR)	6 (> 480 minutes)	>0.11		ISO 374-1

8.2.2.3. Respiratory protection

Respiratory protection:
No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. In case of inadequate ventilation wear respiratory protection. EN 143

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

Other information:
Do not eat, drink or smoke during use. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	Not available
Odour	:	Not available
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not available
Boiling point	:	Not available

Flammability	:	Non flammable.
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not available
pH	:	Not available
pH solution	:	Not available
Viscosity, kinematic	:	Not applicable
Solubility	:	Not available
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	Not available
Relative vapour density at 20°C	:	Not applicable
Particle size	:	Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful. Do not immerse in water, short circuit or overcharge. Keep away from heat and direct sunlight.

10.5. Incompatible materials

Strong acid. Strong bases. Strong oxidizing agent.

10.6. Hazardous decomposition products

Explosion risks of vapours.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	:	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	:	Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	:	Causes skin irritation.
Serious eye damage/irritation	:	Causes serious eye damage.
Respiratory or skin sensitisation	:	Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Lithium hexafluorophosphate(1-) (21324-40-3)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short–term (acute) : Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long–term (chronic) : Not classified (Based on available data, the classification criteria are not met)

12.2. Persistence and degradability

MLI Ultra 24/6000 Battery	
Persistence and degradability	Not applicable.

Aluminium (7429-90-5)	
Persistence and degradability	Biodegradability in water: no data available.

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.
Ecological information : Avoid release to the environment.
European List of Waste (LoW, EC 2000/532) : 16 06 05 - other batteries and accumulators

HP Code : HP5 - “Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:” waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.
HP4 - “Irritant – skin irritation and eye damage:” waste which on application can cause skin irritation or damage to the eye.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 3480	UN 3480	UN 3480	UN 3480	UN 3480
14.2. UN proper shipping name				
LITHIUM ION BATTERIES	LITHIUM ION BATTERIES	Lithium ion batteries	LITHIUM ION BATTERIES	LITHIUM ION BATTERIES
Transport document description				
UN 3480 LITHIUM ION BATTERIES, 9, III, (E)	UN 3480 LITHIUM ION BATTERIES, 9, III	UN 3480 Lithium ion batteries, 9, III	UN 3480 LITHIUM ION BATTERIES, 9, III	UN 3480 LITHIUM ION BATTERIES, 9, III
14.3. Transport hazard class(es)				
9	9	9	9	9
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR) : M4
Special provisions (ADR) : 188, 230, 310, 348, 376, 377, 387, 636
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906
Transport category (ADR) : 2
Tunnel restriction code (ADR) : E

Transport by sea

Special provisions (IMDG) : 188, 230, 310, 348, 376, 377, 384, 387
Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P903, P908, P909 , P910, P911, LP903, LP904, LP905, LP906
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-I
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW19

Properties and observations (IMDG)	:	Electrical batteries containing lithium ion encased in a rigid metallic body. Lithium ion batteries may also be shipped in, or packed with, equipment. Electrical lithium batteries may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants.

Air transport

PCA Excepted quantities (IATA)	:	E0
PCA Limited quantities (IATA)	:	Forbidden
PCA limited quantity max net quantity (IATA)	:	Forbidden
PCA packing instructions (IATA)	:	Forbidden
PCA max net quantity (IATA)	:	Forbidden
CAO packing instructions (IATA)	:	See 965
CAO max net quantity (IATA)	:	See 965
Special provisions (IATA)	:	A88, A99, A154, A164, A183, A201, A206, A213, A331, A334, A802
ERG code (IATA)	:	12FZ

Inland waterway transport

Classification code (ADN)	:	M4
Special provisions (ADN)	:	188, 230, 310, 348, 376, 377, 387, 636
Limited quantities (ADN)	:	0
Excepted quantities (ADN)	:	E0
Equipment required (ADN)	:	PP
Number of blue cones/lights (ADN)	:	0

Rail transport

Classification code (RID)	:	M4
Special provisions (RID)	:	188, 230, 310, 348, _376, 377, 387, 636
Limited quantities (RID)	:	0
Excepted quantities (RID)	:	E0
Packing instructions (RID)	:	P903, 908, 909, P910, P911, LP903, LP904, LP905, LP906
Transport category (RID)	:	2
Colis express (express parcels) (RID)	:	CE2
Hazard identification number (RID)	:	90

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)

Reference code	Applicable on	Entry title or description
3(b)	Lithium hexafluorophosphate(1-)	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains substance(s) listed on the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items: Graphite (7782-42-5), Aluminium powder (7429-90-5)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Netherlands

ABM category	:	A(4) - low hazard for aquatic organisms, may have longterm hazardous effects in aquatic environment
SZW-lijst van kankerverwekkende stoffen	:	None of the components are listed
SZW-lijst van mutagene stoffen	:	None of the components are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding	:	None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid	:	None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	:	None of the components are listed

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes

Section	Changed item	Change	Comments
	Revision date	Modified	
	Supersedes	Modified	
7.2	Technical measures	Modified	
12.2	Persistence and degradability	Added	

Abbreviations and acronyms:

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ATE	Acute Toxicity Estimate
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LD50	Median lethal dose
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail

Abbreviations and acronyms:	
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources : ECHA (European Chemicals Agency). Supplier's safety documents.

Other information : REACH Disclaimer:

This information is based on current knowledge. Consistency of data in the SDS with CSR is considered, as far as the information is available at the time of compilation (cfr Revision date and Version number). DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Skin Irrit. 2	H315	Calculation method
Eye Dam. 1	H318	Calculation method
STOT RE 2	H373	Calculation method

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