



PESS ENERGY

Safety Data Sheet MAX-E

Une Fiche de Données de Sécurité n'est pas requise pour ces produits selon l'article 31 du règlement européen REACH (règlement n°1907/2006). Cette dernière a été créée sur la base du volontariat.

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Versions

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Section 1. Product and company identification

1.1. Product identifier

Product : MAX-E
Reference : PESS-418-01

Other means of identification :

	MAX-E
Rated voltage in volts	8 x 72 V
Nominal capacity in ampere-hours	4 Ah
Nominal capacity in watt-hours	2 304Wh
Quantity of hazardous substances in kg	11 kg

1.2. Relevant identified use of Product and uses advised against

Relevant recommended uses : storage and supply of electrical energy

Not recommended uses : please refer to the User Manual

1.3. Details of the Supplier of the safety data sheet

Name : PESS (PILLOT ENERGY STORAGE SOLUTIONS) ENERGY
Address : 164, Boulevard Mireille LAUZE
Postcode/City/Country : 13010 Marseille - FR
Phone number : +33 (0)4 91 58 86 74
E-mail address : contact@pessenergy.com

1.4. Emergency telephone number

- (FR) N° ORFILA : +33 (0)1 45 42 59 59
- (UK) National Poisons Information Service (NPIS) : NHS on 111
- Emergency Telephone +44 1235 239670 - Europe - Multilingual response

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Section 2. Hazard identification

2.1. Classification

The watt-hour rate of the product is 2304Wh, it is belong to the class 9 dangerous goods.

The product is tested according to Section 38.3 of the Manual of Tests and Criteria, the test report number is: RZUN022025-0042

2.2. Other information

Caution! Avoid short circuit place in high temperature environment, put into water, or damage the shell.

Section 3. Composition/information on ingredients

Substance	Formule moléculaire	% contenu	N° CE	N° CAS
Lithium nickel cobalt aluminum oxides	$\text{Li}_{1.02} \text{Ni}_{0.881} \text{Co}_{0.098} \text{Al}_{0.021} \text{O}_2$	31.9%	-	131344-56-4
Graphite	C	14.4%	231-955-3	7782-42-5
Silicon monoxide	SiOx/MgxSiOy	1.6%	233-232-8	10097-28-6
Lithium hexafluorophosphate	LiPF_6	1.5%	244-334-7	21324-40-3
Polyvinylidene fluoride	$(\text{CH}_2\text{CF}_2)_n$	0.4%	607-458-6	24937-79-9
Iron	Fe	19.1 %	231-096-4	7439-89-6
Copper	Cu	13.0%	231-159-6	7440-50-8
Aluminum	Al	4.6%	231-072-3	7429-90-5
Nickel	Ni	0.1%	231-111-4	7440-02-0
Carbon black	C	1.1%	215-609-9	1333-86-4
Styrene-butadiene rubber	$\text{C}_{36}\text{H}_{42}\text{X}_2$	0.7%	618-370-2	9003-55-8
Carboxymethyl cellulose sodium salt	$[\text{C}_6\text{H}_7\text{O}_2(\text{OH})_2 \text{OCH}_2\text{COONa}]_n$	0.2%	618-378-6	9004-32-4
Electrolyte solvents :				
Ethylene carbonate	$\text{C}_3\text{H}_4\text{O}_3$	7.3%	202-510-0	96-49-1
Dimethyl carbonate	$\text{C}_3\text{H}_6\text{O}_3$		210-478-4	616-38-6
Propylene carbonate	$\text{C}_4\text{H}_6\text{O}_3$		203-572-1	108-32-7
Ethyl methyl carbonate	$\text{C}_4\text{H}_8\text{O}_3$		433-480-9	623-53-0
Polyethylene	$(\text{C}_2\text{H}_4)_n$	2.1%	618-339-3	9002-88-4
Polyethylene terephthalate	$(\text{C}_{10}\text{H}_8\text{O}_4)_n$	2.0%	607-507-1	25038-59-9

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Section 4. First-aid measures

4.1. First aid measures

EYES - If in contact with eyes, rinse thoroughly with water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses if present and if possible. Contact a doctor or medical assistance immediately.

SKIN - In case of direct (or indirect) skin (or hair) contact, remove contaminated clothing and shower, or rinse thoroughly with water, for at least 15 minutes. Contact a doctor or medical assistance immediately.

INHALATION - If inhaled, move away from the exposure area and move/move the victim away and immediately move the victim to a cool-ventilated area. Keep her at rest, in a comfortable position for breathing. Contact a doctor or medical assistance immediately.

INGESTION - If swallowed, rinse mouth thoroughly without swallowing. If the person is unconscious, place them in the lateral safety position. Do not induce vomiting. Contact a doctor or medical assistance immediately.

FIRST AID SELF-PROTECTION - Ensure medical staff are aware of the substances/mixture involved. Take the necessary steps to protect them and prevent any risk of contamination. Avoid contact (direct or indirect) with skin, eyes or clothing. Use a single-use mouth-to-mouth mask in case of a resuscitation. Wear appropriate personal protective equipment.

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

In case of direct or indirect contact, or ingestion, contact a doctor or medical assistance immediately and react according to the first aid measures described in §4.1.

4.3. Indication of any immediate medical care and special treatment required

Refer to the first aid measures described in §4.1.

Section 5. Fire-fighting measures

5.1 Suitable Extinguishing Media

CO2, dry chemical powder, wet sand, plenty of water (for cooling).
Unsuitable Extinguishing Media: No information available.

5.2 Special hazards arising from the substance or mixture

Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium batteries contain flammable ingredients that may vent, ignite and produce sparks when subjected to high temperature (>150°C). When damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in close proximity.

5.3 Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. For example: Wear self-contained respiratory protective device. Wear suitable protective clothing and eye/face protection.

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Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes.
Refer to section 8 for personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.
Evacuate personnel to safe areas.

6.2 Environmental precautions

Environmental Precautions Refer to protective measures listed in Sections 7 and 8.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.

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 Use personal protective equipment. Dam up. Cover liquid spill with sand, earth or other Non-combustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

Section 7. Handling and storage

7.1 Precautions for safe handling

Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Avoid mechanical or electrical abuse. More than a momentary short circuit will generally reduce the battery service life. Avoid reversing battery polarity within the battery assembly. In case of a battery unintentionally be crushed, rubber gloves must be used to handle all battery components. Avoid contact with eyes, skin. Avoid inhalation. No smoking at working site. Materials to Avoid: Strong oxidizing agents. Corrosives.

7.2 Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area. Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short-circuits. Materials to Avoid: Strong oxidizing agents. Corrosives.

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Section 8. Exposure controls/personal protection

8.1 Engineering Controls

Use ventilation equipment if available. Safety shower and eye bath.

8.2 Personal Protective Equipment

Respiratory System: Not necessary under conditions of normal use. Eyes: Not necessary under conditions of normal use. Clothing: Wear appropriate protective clothing. Hand: Safety gloves.

8.3 Other Protect

No smoking, drinking and eating at working site. Wash thoroughly after handling.

Section 9. Physical and chemical properties

PhysicalState	Form: Irregular shape
	Color: White
	Odour: Odourless
	Odor Threshold: No information available
Change in condition:	
pH, with indication of the concentration	Not determined.
Melting point/freezing point	Not determined.
Initial boiling point and Boiling range:	Not determined.
Flash Point	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Auto-ignition temperature	Product is not self-igniting.
Decomposition temperature	Not determined.
Other Information	No further relevant information available.

Section 10. Stability and reactivity

10.1. Reactivity

Stable under recommended storage and handling conditions (see section 7).

10.2. Chemical stability

Stable under normal conditions of use, storage and transport.

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10.3. Possibility of Hazardous Reactions

None under normal processing.

10.4. Conditions to avoid

Strong heating, fire, Incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids.

10.6. Hazardous Decomposition Products

Carbon oxides, other irritating and toxic gases.

Section 11. Toxicological information

11.1. Informations sur les classes de danger

ACUTE TOXICITY – No data available.

SKIN CORROSION / IRRITATION – No irritant effect.

SERIOUS EYE DAMAGE / IRRITATION – Cause serious eye irritation.

RESPIRATORY OR SKIN SENSITIZATION - No sensitizing effects known.

SPECIFIC TARGET ORGAN SYSTEM TOXICITY - No information available.

Note: The internal battery materials may cause irritation to eyes and skin.

Section 12. Ecological information

12.1. Toxicity

No further relevant information available.

12.2. Persistence and degradability

No further relevant information available.

12.3. Bioaccumulative potential:

No further relevant information available.

12.4. Mobility in soil

No further relevant information available.

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12.5. Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

12.6. Other adverse effects

No information available.

Section 13. Disposal considerations

13.1. Waste treatment methods

Recommendation: Lithium batteries are best disposed of as a non-hazardous waste when fully or mostly discharged. Contact a licensed professional waste disposal service to dispose of large quantities materials..

13.2. Other disposal recommendations

Recommendation: Disposal must be made according to official regulations.

Section 14. Transport information

ADR	IMDG	IATA	RID
ONU number			
UN 3480	UN 3480	UN 3480	UN 3480
UN official transport designation			
LITHIUM-ION BATTERIES	LITHIUM-ION BATTERIES	Lithium-ion batteries	LITHIUM-ION BATTERIES
Description of the dangerous goods in the transport document			
UN3480 LITHIUM-ION BATTERIES, 9, (E)	UN 3480 LITHIUM-ION BATTERIES, 9	UN 3480 Lithium-ion batteries, 9	UN 3480 P LITHIUM-ION BATTERIES, 9
Transport hazard class(es)			
9	9	9	9
Hazard labels			
9A	9A	9A	9A
			
Packaging Group			
Not applicable	Not applicable	Not applicable	Non applicable
Dangers pour l'environnement			
Not applicable	Not applicable	Not applicable	Not applicable

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14.6. Précautions particulières à prendre par l'utilisateur

The product is to be regarded as a dangerous good within the meaning of the ADR (Agreement concerning the International Carriage of Dangerous Goods by Road), the IATA DGR (Global Standard for the Carriage of Dangerous Goods by Air), the IMDG (International Maritime Dangerous Goods Code and the RID (Regulations concerning the International Carriage of Dangerous Goods by Rail).

Restrictions apply regarding declaration, quantities transported, and instructions for the packaging and labelling of the container and/or vehicle.

Road transport

Special provisions (ADR)	230, 376, 377, 636, 677
Limited quantities (ADR)	0
Exempt quantities (ADR)	E0
Packing instructions (ADR)	P903, P908, P909, P911, LP903, LP904, LP906
Transport category (ADR)	2
Tunnel restriction code (ADR)	(E)

Maritime transport

Special provisions (IMDG)	230, 376, 377, 384
Limited quantities (IMDG)	0
Exempt quantities (IMDG)	E0
Packing instructions (IMDG)	P903, P908, P909, P911, LP903, LP904, LP906
N° FS (Feu)	F-A
N° FS (Déversement)	S-I
Load category (IMDG)	A
Securing and handling (Code IMDG)	SW19
Properties and observations (IMDG)	Lithium-ion batteries may react (e.g. fire, heat, emission of toxic, corrosive or flammable gases or vapours) or disintegrate as a result of damage, faults or short circuits.

Air transport

Exempted quantities for passenger and cargo aircraft (IATA)	E0
Limited quantities on passenger and cargo aircraft (IATA)	Forbidden
Max. net quantity for limited-quantity air freight passengers and cargo (IATA)	Forbidden
Packaging instructions for passenger and cargo aircraft (IATA)	965
Maximum net quantity for passenger and cargo aircraft (IATA)	Forbidden
Packaging instructions for air freight only (IATA)	967
Max. net weight for cargo aircraft only (IATA)	965
Special provisions (IATA)	A88, A99, A154, A183, A201, A213, A331, A334, A802
Code ERG (IATA)	12FZ

Rail transport

Special provisions (RID)	230, 376, 377, 636, 677
Limited quantities (RID)	0
Exempt quantities (RID)	E0
Packing instructions (RID)	P903, P908, P909, P911, LP903, LP904, LP906

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Section 15. Regulatory information

15.1 Regulations/legislation specific to the substance or mixture relating to safety, health and the environment

Regulation (EC) No 1272/2008 – Classification, packaging and labelling of substances and mixtures

15.2. Chemical safety assessment

No information available.

Section 16. Other information

16.1 Details of amendments

Not applicable.

16.2 Abbreviations and acronyms

ADR: Agreement concerning the International Carriage of Dangerous Goods by Road

DGR: Dangerous Goods Regulations

IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods Code

RID: Agreements Concerning the International Carriage of Dangerous Goods by Rail

Disclaimer

The information provided by PESS ENERGY in this safety data sheet is intended solely to guide the safe handling, use, processing, storage, transport, disposal and release of the product, and must not be regarded as a guarantee or proof of quality.

This information must be brought to the attention of all users and relates solely to the product specified in section 1.1 of this document.

Unless otherwise stated in this document, this information applies only to the said product.

PESS ENERGY accepts no liability in the event of failure to comply with this information and/or misuse of the product.