

SICHERHEITSDATENBLATT 1907/2006/EG – REACH (DE)
for Lithium Manganese Dioxide Batteries



ABSCHNITT 1: Bezeichnung des Stoffs bzw. des Gemischs und des Unternehmens
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Produktidentifikator/ product identifier:

Lithium Manganese Dioxide Batteries built in decorative light LED (article no: 982 and 983)

1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird / relevant identified uses of the substance or mixture and uses advised against

not designed for recharge!

1.2.1 Relevante Verwendungen/ relevant uses:

Designed for decorative light LED (article no: 982 and 983) from folia®

1.2.2 Verwendungen, von denen abgeraten wird/ uses advised against:

Never use chargers, as these aren't intended for this battery type

1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt/
details of the supplier of the safety data sheet

Firma/ company:	MAX BRINGMANN KG Johann-Höllfritsch-Str. 37 90530 Wendelstein / DEUTSCHLAND Telefon +49 (0)9129 277-0 Fax +49 (0)9129 277-277 Homepage www.folia.de E-Mail info@folia.de
Auskunftgebender Bereich/ address enquiries to:	
Technische Auskunft/ technical information:	info@folia.de
Sicherheitsdatenblatt/ safety data sheet	info@folia.de

1.4 Notrufnummer/ emergency telephone number

Telefonnummer der **MAX BRINGMANN KG** +49 (0)9129 277-0 **Mo-Fr 8:00 - 16:00**
telephone of **MAX BRINGMANN KG** +49 (0)9129 277-0 mo-fr 8:00 - 16:00

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ABSCHNITT 2: Mögliche Gefahren
SECTION 2: Hazards identification

2.1 Einstufung des Stoffs oder Gemischs/ classification of the substance or mixture:

This contains lithium, organic solvent, and other combustible materials. For this reason, Improper handling of the battery could lead to distortion, leakage*, overheating, explosion of fire and cause human injury or equipment trouble. Please strictly observe safety instruction.

ABSCHNITT 3: Zusammensetzung / Angaben zu Bestandteilen
SECTION 3: Composition/ Information on ingredients

Produktart/ product art:	lithium manganese dioxide batteries
Bestandteile (Kommentar)/ ingredients (comment):	This contains lithium, organic solvent, and other combustible materials. For this reason, Improper handling of the battery could lead to distortion, leakage*, overheating, explosion of fire and cause human injury or equipment trouble. Please strictly observe safety instruction.
SVHC Liste (Candidate List of Substances of Very High Concern for authorisation):	

Inhaltsstoffe/ ingredient:	CAS # / CAS No.	Inhalt in %/ content in (wt%)
Lithium	7439-93-2	2.0 (0.064 gram)
Propylene Carbonate	108-32-7	6.1
Manganese dioxide	1313-13-9	29.0
1,2-Dimethoxyethane	110-71-4	4.2
Lithium perchlorate	7791-03-9	0.9
Graphite	7782-42-5, 1333-86-4	3.4
Polypropylene	9003-07-0	4.1
Teflon	9002-84-0	0.3
Stainless steel	7439-89-6	50.0



ABSCHNITT 4: Erste-Hilfe-Maßnahmen
SECTION 4: First aid measures

4.1 Beschreibung der Erste-Hilfe-Maßnahmen/ description of first aid measures:

Allgemeine Hinweise/ general information:	None unless internal materials exposure. If contents are leaked out, observe following Instructions
Nach Einatmen/ inhalation:	Fumes can cause respiratory irritation. Remove to fresh air and consult a physician.
Nach Hautkontakt/ Skin contact:	Immediately flush skin plenty of water. If itch or irritation by chemical burn persists, consult a physician.
Nach Augenkontakt/ eye contact:	Immediately flush eye with plenty of water for at least 15 minutes. Consult a physician immediately
Nach Verschlucken/ ingestion	If swallowing a battery, consult a physician immediately.

4.2 Wichtigste akute oder verzögert auftretende Symptome und Wirkungen/
most important symptoms and effects, both acute and delayed

siehe 2.3/ see 2.3

4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung
indication of any immediate medical attention and special treatment needed

Symptomatische Behandlung/ symptomatic treatment

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung
SECTION 5: fire-fighting measures

5.1 Löschmittel/ extinguishing media

Extinguisher of alkaline metal fire is effective. Plenty of cold water is also effective to cool the surrounding area and control the spread fire. But hydrogen gas may be evolved by the reaction of water and lithium and it can form an explosive mixture. Therefore in the case that lots of lithium batteries are burning in a confined space ,use a smothering agent.

5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren/
Special hazards arising from the substance or mixture

5.3 Hinweise für die Brandbekämpfung/ advice for firefighters

Use self-contained breathing apparatus and full protective gear not to inhale harmful gas.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung
SECTION 6: accidental release measures

6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren/ personal precautions, protective equipment and emergency procedures

Do not breathe vapors or touch liquid with bare hands (see section 4).

6.2 Umweltschutzmaßnahmen/ environmental precautions

Waste Disposal Methods: Evacuate area. If possible, a trained person should attempt to stop or contain the leak by neutralizing spill with soda lime or baking soda.

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6.3 Methoden und Material für Rückhaltung und Reinigung/
 methods and material for containment and cleaning up

ANIOSH Approved Acid Gas Filter Mask or Self-Contained Breathing Apparatus should be worn. Seal leaking battery and soda lime or baking soda in a plastic bag and dispose of as hazardous waste. Other: Follow North American Emergency Response Guide (NAERG)#138 for cells involved in an accident, cells that have vented, or have exploded.

6.4 Verweis auf andere Abschnitte/ reference to other sections

siehe **ABSCHNITTE 8 und 13/** see SECTION 8 and 13:

ABSCHNITT 7: Handhabung und Lagerung/
 SECTION 7: handling and storage

7.1 Schutzmaßnahmen zur sicheren Handhabung/ Precautions for safe handling

Never swallow. Never reverse the positive and negative terminals when mounting . Never short-circuit the battery. Never heat. Never expose to open flame. Never disassemble. Never weld the terminal or wire to the body of the battery directly. Never touch the liquid leaked out of battery. Never bring fire close to battery liquid. Never keep in touch with battery.

7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten
 conditions for safe storage, including any incompatibilities

Never let the battery contact with water. Never store the battery in hot and high humid place. Don't push the battery excessively and destroy the battery packaging, often wet and ventilating the dry place to keep in the normal atmospheric temperature, find the unusual battery is dealt with in time

ABSCHNITT 8: Begrenzung und Überwachung der Exposition/ Persönliche Schutzausrüstung/
 SECTION 8: Exposure controls / personal protection

8.1 Zu überwachende Parameter/ control parameters

Arbeitsplatzgrenzwerte (DE)/ Ingredients with occupational exposure limits to be monitored:	NA
Bestandteil/ ingredient:	NA
Arbeitsplatzgrenzwert/ occupational exposure limits:	NA

8.2 Begrenzung und Überwachung der Exposition/ exposure controls

Zusätzliche Hinweise zur Gestaltung technischer Anlagen/ additional advice on system design:	NA
Augenschutz/ eye protection:	NA
Handschutz/ hand protection:	NA
Körperschutz/ skin protection	NA

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Sonstige Schutzmaßnahmen/ other protection	NA
Atemschutz/ respiratory protection:	NA
Thermische Gefahren/ thermal hazards:	NA
Begrenzung und Überwachung der Umweltexposition/ delimitation and monitoring of the environmental exposure:	NA

ABSCHNITT 9: Physikalische und chemische Eigenschaften
SECTION 9: Physical and chemical properties

9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften

Aggregatzustand/ state of matter:	Solid state
Form/ form:	Button type
Farbe/ color:	true quality of stainless steel
Geruch/ odour:	tasteless (at the time of the fullness)
Geruchsschwelle/ odour threshold:	NA
Siedebeginn/ Siedebereich/ boiling point [°C]	1,2-Dimethoxyethane : 83°C
Flammpunkt/ flash point [°C]	NA
Entzündbarkeit (fest, gasförmig) / flammability (solid, gas) [°C]	NA
Untere Entzündbarkeits- oder Explosionsgrenze/ lower explosion limit	NA
Obere Entzündbarkeits- oder Explosionsgrenze/ upper explosion limit	Higher than 170 degrees centigrade of batteries will be burnt
Relative Dichte/ density [g/ml]	NA
Schüttdichte/ Bulk density [kg/m³]	NA
Löslichkeit in Wasser/ Solubility in water	1,2-Dimethoxyethane : :diffuence contact with water
Verteilungskoeffizient [n- Oktanol/ Wasser]/ partition coefficient [n-octanol/water]	NA
Rel. Dampfdichte in Luft / relative vapour density determined in air	1,2-Dimethoxyethane :6.40 (20°C)
Spezifisches Gewicht/ specific gravity:	1,2-Dimethoxyethane :1.63
Schmelzpunkt /Gefrierpunkt/ melting point/ freezing point [°C]	1,2-Dimethoxyethane :-67°C
Verdunstungsrate/ evaporation Rate:	NA
Reaktion in Wasser/ water reactive:	1,2-Dimethoxyethane : diffuence contact with water
Aussehen und Geruch / appearance & odor:	1,2-Dimethoxyethane: achromatism liquid; slight aether odor.



ABSCHNITT 10: Stabilität und Reaktivität
SECTION 10: stability and reactivity

10.1 Reaktivität/ reactivity

Will not occur

10.2 Chemische Stabilität/chemical stability:

NA

10.3 Möglichkeit gefährlicher Reaktionen/ possibility of hazardous reactions

Will not occur

10.4 Zu vermeidende Bedingungen/ conditions to avoid

See section 7.

10.5 Unverträgliche Materialien/ incompatible materials:

water

10.6 Gefährliche Zersetzungsprodukte/ Hazardous decomposition products

hydrogen

ABSCHNITT 11: Toxikologische Angaben
SECTION 11: toxicological information

11.1 Angaben zu toxikologischen Wirkungen/ information on toxicological effects

Acute Toxicity:	1,2-Dimethoxyethane:
LC ₅₀ (Inhalation):	N/A
LD ₅₀	N/A
Eye Effects:	Corrosive
Skin Effects:	Corrosive

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ABSCHNITT 12: Umweltbezogene Angaben
SECTION 12: ecological information

12.1 Toxizität/ toxicity

Aquatic Toxicity: Do not let internal components enter marine environments. Avoid releases into waterways, wastewater or groundwater.

ABSCHNITT 13: Hinweise zur Entsorgung
SECTION 13: Disposal considerations

13.1 Verfahren zur Abfallbehandlung/ waste treatment methods

Produktreste sind unter Beachtung der Abfallrichtlinie 2008/98/EG sowie nationalen und regionalen Vorschriften zu entsorgen. Für dieses Produkt kann keine Abfallschlüssel-Nummer gemäß europäischem Abfallkatalog (AVV) festgelegt werden, da erst der Verwendungszweck durch den Verbraucher eine Zuordnung erlaubt. Die Abfallschlüssel-Nummer ist innerhalb der EU in Absprache mit dem Entsorger festzulegen./ Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

The battery may be regulated by national or local regulation. Please follow the instructions of Proper regulation. As electric capacity is left in a discarded battery and it comes into contact With other metals, it could lead to distortion, leakage, overheating, or explosion, so make sure to cover the (+) and (-) terminals with friction tape or some other insulator before disposal.

Produkt/ product	
AVV-Nr. (empfohlen) / waste no. (recommended)	16 06 05 other batteries and accumulators (including lithium batteries and accumulators)
Ungereinigte Verpackungen/ contaminated packaging	
AVV-Nr. (empfohlen) waste no. (recommended)	

ABSCHNITT 14: Angaben zum Transport
SECTION 14:

Lithium battery model CR2032 is considered as "Dangerous Goods" cargo because they complied with IATA Dangerous Goods Regulations 60" Edition of 2019 & Section IB of Packing Instruction PI 968.

Shipping Name: Lithium Metal Batteries
UN Number: UN3090
Hazard Classification: Class 9 (Miscellaneous)

Organizations governing the transport of lithium batteries

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Area	Method	Organization	Special Provision
International	Air	IATA, ICAO	Packing Instruction PI968-970
International	Water	IMO	188 & 230
U.S.A	Air, Rail, Highway, Water	DOT	49 CFR Section 173.185

These regulations are based on the UN Recommendations. Each special provision provides specifications on exceptions and packaging for shipping lithium batteries. All the Lithium metal cells of Power Glory comply in all respects can be shipped as “ Dangerous Goods” cargo in accordance with IATA Dangerous Goods Regulations 60 Edition & Section IB of Packing Instruction PI 968 e
 If all of following 3 requirements are satisfied, lithium metal batteries can be transported as “Dangerous Goods” cargo.

- 1) Lithium weight or equivalent lithium content must be less than value in table.

Contents	Lithium metal cells and/ or batteries with a lithium content not more than 0.3 g	Lithium metal cells and/ or batteries with a lithium content greater than 0.3 g but not more than 1 g	Lithium metal cells and/ or batteries with a lithium content greater than 1 g but not more than 2 g
Maximum number of cells/ batteries per package	No limit	8 pieces per carton	2 pieces per carton
Maximum net quantity (mass) per package	2.5 kg	N/A	N/A

Equivalent lithium content (g) is calculated as 0.3 (g/Ah) times the rated capacity (Ah).

- 2) Each cell or battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part V ,section 38.3 Cells

- 3) Section II of Packing Instruction PI 968:

- a) Be marked to indicate that it contains lithium metal cells & batteries, and that special procedures be followed in the event that the package is damaged.
- b) Each package must be labeled with a lithium battery handling label.
- c) Be accompanied by a shipping paper explaining that the cells and batteries are excepted from regulations.
- d) Packaging requirement following to above 1) Lithium weight or equivalent lithium content must be less than value in table.
- e) Be capable of withstanding a 1.2m drop test in any orientation without shifting of the contents that would allow short-circuiting, and without release of package contents.

Because the consignor has to take the responsibility, the customer has to confirm the exception conditions when shipping.

Gefahrstoffklasse/ hazard class: 9

UN-number: 3090: LITHIUMMETALBATTERIES

UN- number: 3091: LITHIUMMETALLBATTERIES IN EQUIPMENT or
 LITHIUMMETALLBATTERIES WITH EQUIPMENT PACKED

Verpackungsgruppe/ packaging group: II

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Sonder- und Verpackungsvorschriften/ special and packaging fonts:

Landtransport nach ADR/RID Transport by land according to ADR/RID	188, 230, 310, 636, P903, P903a, P903b,
Seeschiffstransport nach IMDG Marine transport in accordance with IMDG	188, 230, 310, P903 EmS: F-A, S-I Staukategorie A
Lufttransport nach IATA Air transport in accordance with IATA	A88, A99, A154, A164, P968, P969, P970

14.6 Besondere Vorsichtsmaßnahmen für den Verwender/ special precautions for user

entsprechende Angabe unter **ABSCHNITT 6 bis 8./ relevant information under SECTION 6 to 8.**

ABSCHNITT 15: Rechtsvorschriften

SECTION 15: regulatory information

15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch/ safety, health and environmental regulations/ legislation specific for the substance or mixture

EC Labeling : None
Risk Phrases :None
Safety Phrases : None
Labeling is not required because batteries are classified as “articles” under the Dangerous Preparations Directive and as such are exempt from the requirements of the Directive.

In Ländern der EU gelten die nationalen Gesetze zur Umsetzung der Richtlinie 2006/66/EG (Batterierichtlinie).

ABSCHNITT 16: Sonstige Angaben

SECTION 16: other information

16.1 Sonstige Angaben/ other information:

The instructions provide help for compliance with legal requirements, but do not replace them. The above information has been compiled to the best of our knowledge and belief. They provide no assurance of properties. Applicable laws and regulations are to be observed by the distributors and users of the product in their own. They observe responsibility in their own.