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1. **IDENTIFICATION**

Lithium-Manganese-Dioxide-Batteries Sizes: All cells ≤ 1 g Lithium content

All batteries ≤ 2 g Lithium content

VARTA Consumer Batteries Alfred Krupp Str 9, 73479 Ellwangen/Germany GmbH &Co. KGaA

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Emergency Telephone Number: +49 (0) 911 / 65372260

2. HAZARDS IDENTIFICATION

The batteries described in this Safety Data Sheet are sealed and are not harmful, as Note:

long as they are used in compliance with the manufacturer instructions. The content of the battery housing does not create a hazard, as long as the integrity of the battery housing is not affected by abuse (mechanicel, thermal, electrical). Fire,

explosion and severe, burn hazard in such abuse conditions may occur.

Warning: Do not charge, short circuit, puncture, deform, disassemble, heat above

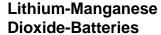
85 °C, incinerate or expose contents to water. Keep batteries away from small children. International Standard IEC 60086-4 contains more detailed

information on safety of lithium batteries.

GHS Classification: N/A

3. **COMPOSITION / INFORMATION on INGREDIENTS**

Substance	Approximate percent of total weight
Lithium Metal	1 - 5
Lithium-Trifluoromethane-Sulfonate	< 1.5
Lithium perchlorate	< 1.6
Manganese Dioxide	13 - 75
Dimethoxyether	1 - 10
Graphite	1 - 5
Stainless Steel	33 - 75
Teflon	1 - 5
Propylene Carbonate	2 - 9
Plastic	< 20
Dioxolane	1 - 9
Lithium Hexafluoroarsenate	1 - 4





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 Mercury (Hg)
 < 0.0005</td>

 Lead (Pb)
 < 0.004</td>

 Cadmium (Cd)
 < 0.002</td>

SVHC substances according to REACH (Article 33)

Contents EC No. CAS No. Material

> 0,1% 203-794-9 110-71-4 1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)

4. FIRST AID MEASURES

Contact to internal Battery content:

▶ **Skin:** Immediately flush with plenty of water for at least 15 minutes.

If symptoms are present after flushing, get medical attention.

Eyes: Immediately flush with plenty of water for at least 15 minutes

and get medical attention.

▶ Respiratory Leave area immediately. With large quantities and irritation

of the respiratory tract get medical attention.

▶ Ingestion: Rinse mouth and sorrounding area with water.

Seek for immediate medical attention.

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5. FIRE – FIGHTING MEASURES

system:

A. Extinguishing Media:

- Copious amounts of water is an effective extinguishing medium for lithium batteries, as long as batteries are not yet venting or exploding.
- Lith-X (Class D extinguishing media) is effective on fires involving only a few lithium batteries.
- Dry chemical type extinguishers have only limited extinguishing potential.



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B. Fire Fighting Proce	dures:
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- Use a positive pressure self-contained breathing apparatus if batteries are involved in a fire.
- ► Full protective clothing is necessary.
- During water application caution is advised as burning pieces of lithium may be ejected from the fire.

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6. ACCIDENTAL RELEASE MEASURES

When the battery housing is damaged, small amounts of electrolyte may leak. Seal battery air tight in a plastic bag, adding some dry sand, chalk (CaCO₃) or lime (CaO) powder or Vermiculite. Electrolyte traces may be wiped off dryly using household paper. Rinse with water afterwards.

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7. HANDLING AND STORAGE

- Do not allow terminals to short-circuit.
 - Storage preferably in a cool (below 30 °C), dry area that is subject to little temperature change.
 - Do not place near heating equipment, nor expose to direct sunlight for long periods. Elevated temperatures can result in reduced battery service life.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory eqipment: None required under normal use conditions.

Hand protection: None required under normal use conditions. Use butyl gloves

when handling leaking batteries.

Eye protection: None required under normal use conditions. Wear safety glasses when

handling leaking batteries.

9. PHYSICAL AND CHEMICAL PROPERTIES

Geometric solid objects.



fulfilled.

short circuits.

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10.	STABILITY AND REACTIVITY
	May rupture violently when heated above 100 °C or when charged.
11.	TOXIOLOGICAL INFORMATION
Not ap	plicable.
12.	ECOLOGICAL INFORMATION
	Not applicable.
13.	DISPOSAL CONSIDERATIONS
	In accordance with appropriate national regulations
	In accordance with appropriate national regulations.
14.	TRANSPORT INFORMATION
	Lithium-Metal Batteries (UN 3090)
	That we supply to our customers are subject to the regulations on dangerous goods. Transport may be facilitated by observing the following special provisions.
	Air transport: IATA Dangerous Goods Regulations 63rd Edition Packing instruction 968 Section IA-IB-II
	UN 3090 = FORBIDDEN with PAX (Passenger- and Cargo Aircraft) ONLY: CAO Sea transport: IMDG Code Amendment 40-20 Special provision 188/230, packing instruction 903
	Road and rail transport: ADR/RID 2021 special provision 188/230, packing instruction 903
	Additional information: Tel +49 911 65372260 for USA: Tel +18004249300

Lithium-Manganese-Dioxide-Batteries Date of issue: 2022-02-17

The requirements of the UN manual of Test and Criteria, Part III, sub-section 38.3 are

All of these batteries are packed and marked within appropriate protection for prevention of

ate of issue: 2022-02-17 Version: 20



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Lithium-Metal Batteries contained in equipment (UN 3091)

That we supply to our customers are subject to the regulations on dangerous goods. Transport may be facilitated by observing the following special provisions.

Air transport: IATA Dangerous Goods Regulations 63rd Edition Packing instruction 970 Section II

Sea transport: IMDG Code Amendment 40-20 Special provision 188/230, packing instruction 903

Road and rail transport: ADR/RID 2021 special provision 188/230, packing instruction 903

Additional information: Tel +49 911 65372260 for USA: Tel +18004249300 The requirements of the UN manual of Test and Criteria, Part III, sub-section 38.3 are fulfilled.

All of these batteries are packed and marked within appropriate protection for prevention of short circuits.

Lithium-Metal Batteries contained with equipment (UN 3091)

That we supply to our customers are subject to the regulations on dangerous goods. Transport may be facilitated by observing the following special provisions.

Air transport: IATA Dangerous Goods Regulations 63rd Edition Packing instruction 969 Section II

Sea transport: IMDG Code Amendment 40-20 Special provision 188/230, packing instruction 903

Road and rail transport: ADR/RID 2021 special provision 188/230, packing instruction 903

Additional information: Tel +49 911 65372260 for USA: Tel +18004249300 The requirements of the UN manual of Test and Criteria, Part III, sub-section 38.3 are fulfilled.

All of these batteries are packed and marked within appropriate protection for prevention of short circuits.

15.	REGULATORY INFORMATION
	Not applicable.

16. OTHER INFORMATION

For lithium batteries in general, Safety standard IEC 60086-4 applies. It contains detailed recommendations for manufactures of equipment and users.