

Material Safety Data Sheet

Page 1 / 5

Safety data sheet according to 91/155 EWG / ISO 11014-1

Edition: July 30, 2003 Version: 2003/1/V/NiMH

1. IDENTIFICATION

Nickel Metal Hydride Batteries**all sizes****VARTA Consumer Batteries**
GmbH & Co. KGaA

Daimlerstrasse 1 73479 Ellwangen/Germany

Phone ++49 (0) 7961 / 83-0

Fax ++49 (0) 7961 / 83-595

Emergency Telephone Number:

++49 (0) 911 / 65372260

2. COMPOSITION / INFORMATION on INGREDIENTS

Substance	Approximate percent of total weight
Nickel and compounds	17 – 40
Steel	15 – 57
Potassium Hydroxide (KOH)	3 – 15
Sodium Hydroxide (NaOH)	< 4
Lithium Hydroxide (LiOH)	< 4
Cobalt and compounds	2 – 8
Zinc and compounds	< 3
Manganese (Mn)	< 2
Aluminium (Al)	< 2
Hydrogen storage mischmetal alloy	4 – 20
Water, paper, plastic, other	balance

Material Safety Data Sheet

Page 2 / 5

Safety data sheet according to 91/155 EWG / ISO 11014-1

Edition: July 30, 2003 Version: 2003/1/V/NiMH

3. HAZARDS IDENTIFICATION

Note: The batteries described in this Safety Data Sheet are sealed and are not harmful, as 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 (mechanical, thermal, electrical). Fire, explosion and severe, burn hazard in such abuse conditions may occur.

Warning: Do not short circuit, puncture, deform, disassemble, heat above 85 °C or incinerate. Keep batteries away from small children. International Standard IEC 61809 contains more detailed information on safety of nickel metal hydride batteries.

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 system:** Leave area immediately. With large quantities and irritation of the respiratory tract get medical attention.
- ▶ **Ingestion:** Rinse mouth and surrounding area with water. Seek for immediate medical attention.

Material Safety Data Sheet

Page 3 / 5

Safety data sheet according to 91/155 EWG / ISO 11014-1

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5. FIRE – FIGHTING MEASURES

A. Extinguishing Media:

- ▶ Copious amounts of water or foam is an effective extinguishing medium for nickel metal hydride batteries.
- ▶ Dry chemical type extinguishers may also be used.

B. Fire Fighting Procedures:

- ▶ Use a positive pressure self-contained breathing apparatus if batteries are involved in a fire.

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 (CaCO_3) or lime (CaO) powder or Vermiculite. Electrolyte traces may be wiped off dryly using household paper. Rinse with water afterwards.

Material Safety Data Sheet

Page 4 / 5

Safety data sheet according to 91/155 EWG / ISO 11014-1

Edition: July 30, 2003 Version: 2003/1/V/NiMH

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 equipment: 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.

10. STABILITY AND REACTIVITY

May rupture violently when heated above 100 °C or when charged.

11. TOXIOLOGICAL INFORMATION

Not applicable.

Material Safety Data Sheet

Page 5 / 5

Safety data sheet according to 91/155 EWG / ISO 11014-1

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12. ECOLOGICAL INFORMATION

Not applicable.

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13. DISPOSAL CONSIDERATIONS

- ▶ Nickel metal hydride batteries do not contain hazardous materials according to EC directives 91/157/EEC and 93/86/EEC.
 - ▶ In accordance with appropriate national regulations (EC 91/157 item 4).
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14. TRANSPORT INFORMATION

Nickel metal hydride batteries shipped by VARTA Gerätebatterie GmbH are not regarded as hazardous goods per IATA* regulations.

* International Air Transport Association.

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15. REGULATORY INFORMATION

Not applicable.

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16. OTHER INFORMATION

For nickel metal hydride batteries in general, Safety standard IEC 61809 applies. It contains detailed recommendations for manufactures of equipment and users.

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