VARTA Microbattery
mobility for you

MATERIAL DATA SHEET

Types : Primary Alkaline Cylindrical
Chemical system : MnO_2 | KOH | Zinc
Date: 2005-08-05

1. TYPE, VOLTAGE, AND WEIGHT

Cell Type	Type-No.	Voltage (V)	Weight (g)
LR 03	4103	1.5	11
LR 6	4106	1.5	23
LR 14	4114	1.5	69
LR 20	4120	1.5	141
6 LR 61	4122	9	46

2. INGREDIENTS

		Approx. percentage (%) of total weight
Active materials*	- Manganese dioxide - MnO_2	24 - 40
	- Zinc - Zn	10 - 19
	- Potassium hydroxide - KOH	4 - 7
Main passiv materials*	- Steel	15 - 26
	- Copper	0.5 - 2
	- Nickel	0.1 - 0.3
	- Plastic	2 - 6
	Mercury content - Hg < 1 mg/kg	
	Cadmium content - Cd < 5 mg/kg	
	Lead content - Pb < 90 mg/kg	

* All cells are sealed round cells or batteries of them, no chemical hazard will be posed as long as the cell remains in sealed condition.

3. SAFETY GUIDELINE

3.1 Keep out of the reach of children. If swallowed, contact a physician at once.
3.2 Do not heat. Nor dispose in fire. May burst or release toxic materials.
3.3 Avoid forced discharge.
3.4 Do not short circuit, may cause burns.
3.5 Do not charge.
3.6 Do not solder the battery directly.
3.7 Do not disassemble, apply excessive pressure or deform.
3.8 Battery compartment should provide sufficient space for battery to expand in case of abuse.
3.9 Either battery compartment or battery connector should have a design that makes it impossible to place the battery in reverse polarity.
3.10 Equipment intended for use by children should have tamper-proof battery compartment.
3.11 Battery of different electrochemical system, grades, or brands should not be mixed.
3.12 Battery disposal method should be in accordance with local and state regulations.

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