

## MATERIAL DATA SHEET

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Types	Primary Silver Button	
Chemical system	Ag2O   KOH, NaOH   Zn	Date: 2004-07-28
Voltage	1.55 V; V28PX: 6.2 V	

1. TYPE AND WEIGHT

Cell Type	Weight (g)	Cell Type	Weight (g)	Cell Type	Weight (g)
V8GS (4173)	0.9	V335( 335)	0.15	V379 (379)	0.23
V10GS (4174)	1.31	V339 (339)	0.22	V381 (381)	0.9
V12GS (4178)	1.78	V341 (341)	0.27	V384 (384)	0.69
V13GS (4176)	2.33	V344 (344)	1.49	V386 (386)	1.78
V28PX (4028)	11.1	V346 (346)	0.3	V389 (389)	1.31
V76PX 4075)	2.4	V350 (350)	1.49	V390 (390)	1.32
V301 (301)	1.78	V357 (357)	2.33	V391 (391)	0.9
V303 (303)	2.33	V361 (361)	0.4	V392 (392)	0.69
V309 (309)	1.08	V362 (362)	0.4	V393 (393)	1.08
V315 (315)	0.4	V364 (364)	0.33	V394 (394)	1.04
V317 (317)	0.18	V370 (370)	0.6	V395 (395)	0.75
V319 (319)	0.25	V371 (371)	0.61	V396 (396)	0.55
V321 (321)	0.25	V373 (373)	0.5	V397 (397)	0.50
V329 (329)	0.6	V377 (377)	0.39	V399 (399)	0.75

2. INGREDIENTS

		Approx. percentage (%) of total weight
Active materials*	- Silver oxide - Ag2O - Manganese dioxide - MnO2 - Zinc - Zn - Potassium hydroxide - KOH - Sodium hydroxide - NaOH	13 - 34 0 - 14 5 - 10 0 - 3 0 - 2
Main passiv materials*	- Steel - Copper - Nickel - Mercury (solved in Zinc Metal) - Lead - Cadmium - Plastic	26 - 57 2 - 5 1 - 13 0.2 - 0.6 0.002 - 0.006 < 0.00005 2 - 7

\* All cell types are sealed button cells or button cell batteries, 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.

Prepared by : Dr. Krebs	Approved by : Dr.Holl
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