

# CERTIFICATE OF ANALYSIS (COA)

**Manufacturer:** BTL New Material Co., Ltd.

**Website:** <https://manganesesupply.com>

**Product Name:** Chemical Manganese Dioxide (CMD)

**CAS No.:** 1313-13-9

**Chemical Formula:** MnO<sub>2</sub>

**Application:** Zinc-Carbon & General Dry Batteries

Item	Information
Batch No.	CMD-2025-DB
Production Date	March 2025
Inspection Date	March 2025
Country of Origin	China

## TEST RESULTS

Item	Specification	Result	Test Method
MnO <sub>2</sub> Content	≥ 75.0 %	78.6 %	Chemical titration
Iron (Fe) Content	≤ 0.06 %	0.028 %	ICP-OES
Silica (SiO <sub>2</sub> ) Content	≤ 3.0 %	1.85 %	Gravimetric analysis
Moisture Content	≤ 3.0 %	1.2 %	Loss on drying (105 ° C)
pH (10% slurry)	3.5 - 5.5	4.4	pH meter
Bulk Density	≥ 1.80 g/cm <sup>3</sup>	2.05 g/cm <sup>3</sup>	ASTM D1895

## CONCLUSION

The above batch of **Chemical Manganese Dioxide (CMD)** has been tested in accordance with internal quality control procedures.

**All results comply with the specified standards and the product is suitable for use in dry battery applications.**

Authorized By: \_\_\_\_\_ lipan \_\_\_\_\_

Date: 2025/10/5 \_\_\_\_\_

Signature & Company Stamp



