

[METRIC]  
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SUPERSEDING  
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## COMMERCIAL ITEM DESCRIPTION

### MAGNESIUM OXIDE, TECHNICAL

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. **SCOPE.** This commercial item description (CID) covers one type of technical grade magnesium oxide.

### 2. SALIENT CHARACTERISTICS

2.1 Composition. The technical grade of magnesium oxide shall be a low-density (light) form, intended for use as an antacid in the manufacture of munitions. Magnesium oxide shall conform to the applicable chemical and physical characteristics of Table 1 when tested as specified therein.

TABLE I. Chemical and physical characteristics.

Characteristic	Min.	Max.	Test Method
Ignition loss, percent by weight	-	8.0	ASTM D 2773
Calcium (as CaO), percent by weight	-	2.0	para. 2.2
Magnesium (as MgO), percent by weight	96.0	-	para. 2.2

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent by letter to: Defense Supply Center Richmond (DSCR), ATTN: DSCR-VBD, 8000 Jefferson Davis Highway, Richmond, VA 23297-5610.

AMSC N/A

FSC 6810

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TABLE I. Chemical and physical characteristics. (Continued)

Water-soluble alkali (as Na <sub>2</sub> CO <sub>3</sub> ), percent by weight	-	0.2	para. 2.2
Total water-soluble matter, percent by weight	-	1.0	para. 2.2
Hydrochloric acid-insoluble matter, percent by weight	-	1.5	para. 2.2
Iron (as Fe <sub>2</sub> O <sub>3</sub> ), percent by weight	-	0.3	para. 2.2
Apparent density, grams per cubic centimeter	0.06	0.12	ASTM B 329

Abbreviations: Min. = minimum; Max. = maximum; para. = paragraph  
ASTM = American Society for Testing and Materials

2.2 Testing. X-ray fluorescence (XRF) spectrometer method for chemical analysis of magnesium oxide.

2.2.1 Reference materials. Certified magnesium oxide reference materials, plus other certified reference materials, shall be used in instrument calibration. The method by which the reference materials are prepared for instrument calibration must be identical to that for all samples.

2.2.2 Test conditions. The x-ray emission spectrometric analysis of magnesium oxide shall be performed by the same conditions and parameters established at time of instrument calibration.

2.2.3 Samples. Samples shall be ignited to the oxide basis. Samples shall be fused with high-purity reagent grade lithium tetraborate, cast to form a fused glass disk, tempered, and readied for x-ray analysis.

2.2.4 Magnesium oxide determination. Determine magnesium oxide content of each sample by difference. The spectrometer shall produce a report that shows the magnesium oxide content as the difference between the sum (in percent) of the impurities from 100 percent.

### 3. REGULATORY REQUIREMENTS

3.1 Marking, packaging, and labeling. Material shall be labeled, packed, and marked in accordance with Title 49, Code of Federal Regulations (CFR) paragraphs 100 to 185.

3.2 Recycled materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practical, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

3.3 Material safety data sheet (MSDS). The manufacturer shall comply with requirements set forth by the Hazardous Communication Standard 29 CFR paragraph 1910.1200 (d) through (g).

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Product conformance. The product provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The government reserves the right to require proof of such conformance.

4.2 Market acceptability. The following market acceptability criteria are necessary to document the quality of the product to be provided under this CID.

- a. The item offered must have been sold to the government within the past 2 years.
- b. The company must be able to show test data or lab results of meeting the salient characteristics of the magnesium oxide.

5. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order.

6. NOTES. This section contains information of a general or explanatory nature that is helpful, but is not mandatory.

##### 6.1 Referenced documents.

6.1.1 The Code of Federal Regulations and Federal Acquisition Regulation may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-0001.

6.1.2 ASTM standards may be obtained from American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

##### 6.2 Ordering data. Acquisition documents must specify the following:

- a. Title, number, and date of this commercial item description.
- b. Packaging requirements (see 5).
- c. Unit of issue and quantity.

6.3 National stock number (NSN). NSN 6810-00-104-1893 corresponds to this CID. It may not be indicative of all possible NSNs associated with this document.

MILITARY INTERESTS:

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - 10FTE

##### Custodians

Army - EA

Navy - OS

##### Preparing Activity:

DLA - GS

(Project 6810-1627)

##### Reviewers

Army - MD1, MI

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