METRIC

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COMMERCIAL ITEM DESCRIPTION

NITROGEN, TECHNICAL

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

1. SCOPE. This commercial item description covers two types of nitrogen, liquid and gaseous. Each of these two types of nitrogen can be obtained in two different technical grades based on nitrogen purity and limits on oxygen and moisture impurity content. Liquid nitrogen is used as a cooling agent for low temperature and cryogenic processes to shield temperature sensitive materials and equipment from the effects of heat. Gaseous nitrogen is used to purge or pressurize systems, or provide inert atmospheres. The list of intended use includes, but is not limited to, pressurizing fuel tanks, hydraulic system accumulators, aircraft struts, rocket engine propellant systems, and carbon dioxide cylinders; purging aircraft oxygen converters, and purging and calibrating instruments. Since some systems are sensitive to oil contamination, gaseous nitrogen is divided into two classes, oil free and oil tolerant. Class 1, oil free nitrogen, is used for applications which cannot tolerate hydrocarbons, such as the purging of oxygen equipment. Class 2, oil tolerant nitrogen, is used for pressurizing oil-containing systems such as aircraft struts.

2. CLASSIFICATION. The nitrogen, technical, shall conform to the following types, grades and classes:

2.1 Type. Type I - gaseous
Type II - liquid

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be used in improving this document should be addressed to: Defense Supply Center Richmond, Standardization Program Branch, ATTN: DSCR-VBD, 800 Jefferson Davis Highway, Richmond, VA 23297-5610

AMSC N/A FSC 6830

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

2.2 Grade. Grade A - 99.95% pure nitrogen
Grade B - 99.50% pure nitrogen

2.3 Class. Class 1 - oil free
Class 2 - oil tolerant (Type I only)

3. SALIENT CHARACTERISTICS

3.1 Nitrogen purity. The amount of nitrogen in the material shall be a minimum of 99.95 percent by volume (v/v) for grade A nitrogen, or 99.50 percent by volume (v/v) for grade B nitrogen. This includes trace amounts of neon, argon and helium. The purity shall be determined by one of the methods described in sections 5.2.1-5.2.3 of Compressed Gas Association (CGA),Inc. G-10.1,"Commodity Specification for Nitrogen".

3.2 Oxygen content. The amount of oxygen in the material shall have a maximum of 0.05 percent (v/v) for grade A nitrogen, or 0.5 percent (v/v) for grade B nitrogen. The oxygen content shall be determined by one of the methods described in sections 5.5.1-5.5.7 of CGA G-10.1

3.3 Moisture content. The amount of moisture in the material shall have a maximum of 26 ppm (v/v or mole/mole) for both grades A and B nitrogen. The moisture content shall be determined by one of the procedures described in sections 5.3.1 to 5.3.4 of the CGA G-10.1

3.4 Odor. The nitrogen shall have no odor when tested in accordance with section 5.11 of CGA G-10.1.

4. QUALITY ASSURANCE PROVISIONS

4.1 Product conformance. The products 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 criterion is necessary to document the quality of the product to be provided under this CID.

4.2.1 The company must be able to show data from tests or process monitoring, of meeting the salient characteristics of technical grade nitrogen.

5. PACKAGING AND SPECIAL MARKINGS. Packaging, preservation, handling and storage, and marking shall be as specified in the contract or order. All government owned cylinders that have been provided for filling shall be reconditioned as necessary in accordance with MIL-STD-1411. DoD cylinders are procured to RR-C-901, their valves to MIL-DTL-2 and the cylinders color coded to MIL-STD-101B. The palletization of material shall be performed according to DoD Handbook MIL-HDBK-774.

6. NOTES

6.1 International standardization. Certain provisions (section 3) of this specification are the subject of international standardization agreement ASCC Air Standard 15/10, 15/11 and 15/12, and NATO STANAGs' 3546GGS, and 3624GGS. When amendment, revision, or cancellation of this specification is proposed which will affect or violate the international agreement concerned, the preparing activity will take appropriate reconciliation action through international standardization channels including departmental standardization offices, if required.

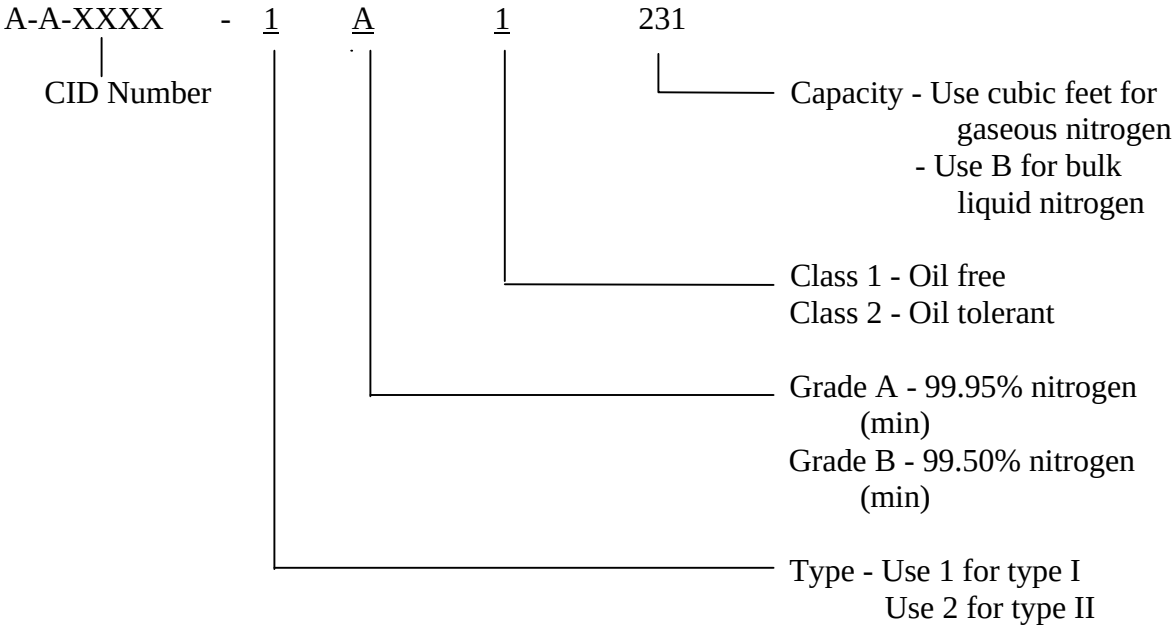
6.2 Ordering data. Acquisition document must specify the following:

a. Title, number, and date of this document.

b. Part identification number (see 6.3).

c. Quantity and size of container required.

6.3 Part identification number (PIN). The following part identification number procedure is for government purposes and does not constitute a requirement for the contractor.



6.4 National stock numbers (NSNs). The following is a list of assigned NSNs which correspond to this CID. This list may not be indicative of all possible NSNs associated with this document.

NSN	GRADE	CLASS	CAPACITY *(Cubic Feet)*	DOT SPEC
6830-00-134-3709	A	1	012	3AA2015
6830-00-782-2643	A	1	187	3AA1800
6830-01-456-5506	A	1	207	3AA2015
6830-00-656-1596	A	1	231	3AA2265
6830-00-192-9067	B	1	110	3AA2015
6830-00-782-2641	B	1	187	3AA1800
6830-01-210-5570	B	1	207	3AA2015
6830-01-028-9402	B	1	231	3AA2265
6830-01-267-9591	B	1	276	3AA2400
6830-01-265-9068	B	1	336	3AA3500
6830-01-431-0639	B	1	494	3AA6000
6830-00-782-2642	B	2	187	3AA1800
6830-01-431-0661	B	2	207	3AA2015
6830-01-250-2888	B	2	231	3AA2265
6830-01-283-8777	B	2	336	3AA3500

6.5 Unit equivalent. Parts per hundred is expressed as percent (v/v). Parts per million is expressed as ppm (v/v). A moisture content of 26 ppm (v/v) equates to 0.02 mg/L

6.6 Valve outlet connections.

6.6.1 Cautionary Note: The valve outlet connection for oil tolerant nitrogen should be different from the rest to prevent the erroneous use of oil tolerant nitrogen cylinders for oil free applications. A reverse flow typically occurs during an oil tolerant operation (namely, the use for pressurizing oil-containing systems, e.g. aircraft struts). As a result, cylinders are contaminated with oil; and therefore it must not be used for oil free applications.

6.6.2 The applicable standard is ANSI/CGA V-1, American National compressed Gas Association Standard for Compressed gas Cylinder Valve outlet and Inlet Connections. The connections listed in table I apply.

TABLE I. Valve connection number.

Pressure(psig)	<3000	>3000
Class 1	580	680
Class2	590	621

6.7 Sources of referenced documents. Copies of referenced documents are available from:

6.7.1 Military Standards and Federal Specifications may be obtained from the Defense Automated Printing Service (DAPS), Building 4D, NPM-DODSSP,700 Robbins Avenue, Philadelphia, PA 19111-5094

6.7.2 ANSI/CGA V-1 and CGA G-10.1 may be obtained from the Compressed Gas Association, Inc. 1725 Jefferson Davis Highway, Arlington, VA 22202

MILITARY INTERESTS:
Custodians

Air Force - 68
Navy - SH
Army - AV

Reviewers

Army - AR, EA, MD
Navy - AS, MC, OS, YD
Other - DS

CIVIL AGENCY COORDINATING ACTIVITY:
GSA-FSS

Preparing activity:
DLA-GS

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