METRIC

A-A-59503A
9 November 2006
SUPERSEDING
A-A-59503
1 June 2000

COMMERCIAL ITEM DESCRIPTION

NITROGEN, 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 two types of nitrogen: liquid and gaseous. Each type 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 shall conform to the following types, grades, and classes:

2.1 Type. The type of technical nitrogen shall be as specified (see 7.4(b)).

Type I - gaseous
Type II - liquid

2.2 Grade. The grade of technical nitrogen shall be as specified (see 7.4(c)).

Grade A - 99.95 percent pure nitrogen
Grade B - 99.50 percent pure nitrogen

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to: STDZNMGT@dla.mil or Defense Supply Center Richmond (DSCR), ATTN: DSCR-VEB, 8000 Jefferson Davis Highway, Richmond, VA 23297-5616.

2.3 Class. The class of technical nitrogen shall be as specified (see 7.4(d)).

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 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 Compressed Gas Association (CGA) 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 of CGA G-10.1.

3.3 Moisture content. The amount of moisture in the material shall have a maximum of 26 parts per million (ppm) for both grades A and B nitrogen. The moisture content shall be determined by one of the procedures described in of CGA G-10.1.

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

4. REGULATORY REQUIREMENTS

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

5. PRODUCT CONFORMANCE PROVISIONS

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

5.2 Market acceptability. The product offered must have been previously sold either to the government or on the commercial market.

5.2.1 Market acceptability criterion. The company must be able to show data from tests or process monitoring that demonstrates the ability of the product to meet the salient characteristics of technical grade nitrogen.

6. PACKAGING

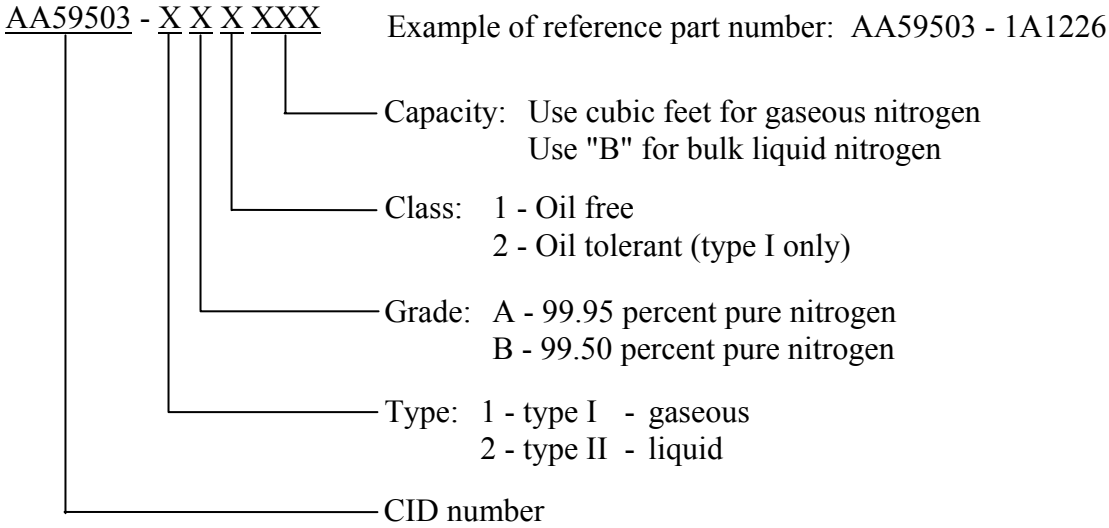
6.1 Preservation, packing, and marking. Preservation, packing, and marking shall be as specified in the acquisition order (7.4(e)).

6.2 Packaging and special markings. All government owned cylinders that have been provided for filling shall be reconditioned as necessary in accordance with MIL-STD-1411. DoD cylinders shall conform to RR-C-901, their valves to MIL-DTL-2 and the cylinders color coded in accordance with MIL-STD-101. The capacity in cubic feet for gaseous nitrogen or "B" for bulk liquid nitrogen shall be as specified (see 7.4(f)).

6.3 Palletization. The palletization of material shall be as specified in the acquisition order (see 7.4(g)). MIL-HDBK-774 may be used as a guideline for palletization.

7. NOTES

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



7.2 Sources of documents.

7.2.1 FAR. The FAR may be obtained from the Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Electronic copies of FAR documents may be obtained from http://www.arnet.gov/far/.

7.2.2 Federal specifications and standards. Copies of federal specifications and standards may be obtained from General Services Administration, Federal Supply Service, Specification Section, 470 East L'Enfant Plaza SW, Suite 8100, Washington, DC 20407. Electronic copies of federal specifications and standards may be obtained from http://assist.daps.dla.mil.

7.2.3 Military specifications, standards, and handbooks. Copies of military specifications, standards, and handbooks may be obtained from Standardization Documents Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094. Electronic copies of military specifications and standards may be obtained from http://assist.daps.dla.mil.

7.2.4 CGA standards. Copies of CGA standards may be obtained from the Compressed Gas Association, 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923. Electronic copies of CGA standards may be obtained from http://www.cganet.com/.

7.3 International standardization agreements (ISAs). Certain provisions of this CID (section 3) are subject of international standardization agreements AIR-STD-15/10, AIR-STD-15/11, AIR-STD-15/12, and NATO STANAG 3624. When amendment, revision, or cancellation of this specification is proposed which will modify the international agreement concerned, the preparing activity will take appropriate action through international standardization channels, including departmental standardization offices, to change the agreement or make other appropriate accommodations.

7.4 Ordering data. The acquisition order should specify the following:

a. CID document number, revision, and CID PIN.
b. Type of technical nitrogen (see 2.1).
c. Grade of technical nitrogen (see 2.2).
d. Class of technical nitrogen (see 2.3).
e. Preservation, packing, and marking requirements (see 6.1).
f. Capacity (see 6.2).
g. Palletization requirements (see 6.3).

7.5 National stock number (NSNs). The following is a list of NSNs assigned that correspond to this CID. The list may not be indicative of all possible NSNs associated with the CID.

TABLE I. Technical nitrogen NSNs.

NSN	Type	Grade	Class	Cylinder capacity
6830-00-134-3709	I	A	1	12
6830-00-192-9067	I	B	1	113
6830-00-656-1596	I	A	1	226
6830-01-028-9402	I	B	1	226
6830-01-040-3847	I	B	1	0.32
6830-01-250-2888	I	B	2	226
6830-01-265-4068	I	B	1	336
6830-01-283-8777	I	B	2	336
6830-01-386-4846	I	A	1	38

TABLE I. Technical nitrogen NSNs - Continued.

NSN	Type	Grade	Class	Cylinder capacity
6830-01-431-0639	I	B	1	494
6830-01-441-0798	I	B	1	336
6830-01-441-0875	I	B	1	226
6830-01-441-0903	I	A	1	187
6830-01-441-2983	I	A	1	226
6830-01-508-3010	I	B	1	336
6830-01-508-3035	I	B	1	226
6830-01-508-3041	I	B	1	226
6830-01-512-8735	I	A	1	226
6830-01-512-8792	I	B	1	113
6830-01-512-8809	I	B	1	226
6830-01-512-8894	I	B	1	276
6830-01-512-8897	I	B	1	336
6830-01-512-8918	I	B	1	494
6830-01-512-8929	I	B	2	336

7.6 Valve outlet connections.

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

7.6.2 Valve connections. The applicable standard for valve connections is CGA V-1, "Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections". The connections listed in table II apply.

TABLE II. Valve connection numbers.

Pressure (psi)	<3,000	>3,000
Class 1	580	680
Class 2	590	621

7.7 Subject term (key word) listing.

compressed gas
cylinder
valves

MILITARY INTERESTS:

Custodians:
Army - AV
Navy - SH
Air Force - 68

Review activities:
Army - AR, EA, MD1
Navy - AS, MC, OS, YD
DoD - DS

CIVIL AGENCY
COORDINATING ACTIVITY:

GSA - FSS

Preparing activity:
DLA - GS3

(Project 6830-2005-001)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST database at http://assist.daps.dla.mil.