

INCH-POUND

MIL-T-46938C (AR)

16 May 1994

SUPERSEDING

MIL-T-46938B (AR)

26 April 1985

MILITARY SPECIFICATION

TETRACENE

This specification is approved for use by the US Army Armament, Munitions and Chemical Command and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the requirements and quality assurance provisions for the manufacture and acceptance of tetracene (1-(5-tetrazolyl) -4-guanyl tetrazene hydrate) for use in priming compositions. (See 6.1)

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards and handbooks. The following specifications, standards and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

RR-S-366 - Sieves, Standard for Testing Purposes

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, U.S. Army ARDEC ATTN: SMCAR-BAC-S, Picatinny Arsenal, New Jersey 07806-5000 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC/NA

FSC - 1376

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

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MILITARY

MIL-A-48078 - Ammunition, Standard Quality Assurance Provisions, General Specification for

STANDARDS

MILITARY

MIL-STD-109 - Quality Assurance Terms and Definitions
 MIL-STD-129-1 - Marking for Shipment and Storage - Ammunition and Explosives
 MIL-STD-650 - Explosive: Sampling Inspection and Testing
 MIL-STD-1168 - Lot Numbering of Ammunition
 MIL-STD-1218 - ACS Chemicals
 MIL-STD-2073-1 - DOD Material Procedures for Development and Application of Packaging Requirements

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from DODSSP - Customer Service, Standardization Documents Order Desk, 700 Robbins Avenue, Bldg. 4D, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents, drawings and publications. The following other Government documents, drawings publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

CODE OF FEDERAL REGULATIONS

49 CFR 100-180 - Department of Transportation Rules and Regulations for the Transportation of Hazardous Materials
 DI-PACK-81059 - Data Item Description
 Vanderkamp Apparatus - Scientific Glass Apparatus

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U.N. Document ST/SG/AC.10.11	-	United Nations Committee of Experts on the Transportation of Dangerous Goods
ICAO	-	International Civil Aviation Organization
IMDG Code	-	Intergovernmental Maritime Organization's International Maritime Dangerous Goods Code

(The Interstate Commerce Commission Regulation are now a part of the Code of Federal Regulations, available from the Superintendent of Documents, US Government Printing Office, Washington, DC 20402. Orders for the above publications should cite, "49 CFR 100-180 (latest revision)".)

2.2 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS

ASTM D2905	-	Statements on Number of Specimens Required to Determine the Average Quality of a Textile Material
ASTM E300	-	Sampling Industrial Chemicals

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103).

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained. (See Contract Provisions for additional precedence criteria).

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3. REQUIREMENTS

3.1 Material. Tetracene shall be manufactured by any method which will produce material conforming to the requirements of this specification.

3.2 Chemical and physical requirements. Tetracene shall comply with the chemical and physical requirements specified in Table I when tested as specified in the applicable paragraphs cited in 4.5.

TABLE I. Physical and chemical characteristics.

<u>Characteristics</u>	<u>Requirement</u>	<u>Test method</u>
Color and appearance	White to pale yellow	Para 4.5.2
Melting and explosion point	127° ± 3°C	Para 4.5.3
Granulation	100% through US #45 Sieve	Para 4.5.4
Specific gravity	1.65 ± 0.05	Para 4.5.5
Heavy metals	None	Para 4.5.6
Nitrogen content	74.5 ± 1.0%	Para 4.5.7

3.3 First article. When specified in the contract or purchase order (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with the technical provisions herein (see 4.3).

3.4 Workmanship. The manufacturer shall implement procedures and controls to assure that the process and the product are not compromised by foreign materials and contaminants or any other conditions which may degrade the composition. Determination of foreign materials shall be in accordance with 4.5.8.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as

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otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements; however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.1.2 General provisions. Unless otherwise specified herein, the provisions of MIL-A-48078 apply and form a part of this specification. Reference shall be made to MIL-STD-109 to define quality assurance terms used herein.

4.2 Classification of inspections. The required inspections specified herein are classified as follows:

- a. First article inspection (see 4.3)
- b. Quality conformance inspection (see 4.4)

4.3 First article inspection.

4.3.1 Submission. When specified in the contract or purchase order, the contractor shall submit a first article sample consisting of one (1) pound of tetracene. The first article sample shall be obtained from the first production lot which has been produced by the contractor, using the same production processes, procedures and equipment as will be used in fulfilling the contract. All raw materials used in producing the tetracene shall be from the same sources as will be used in regular production.

4.3.2 Inspections to be performed. The first article sample may be subjected by the Government to any or all of the examinations or tests specified herein.

TABLE II. First article inspection.
CLASSIFICATION OF CHARACTERISTICS

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PARAGRAPH	TITLE	SHEET 1 OF 1		DRAWING NUMBER
				NEXT HIGHER ASSEMBLY
CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	INSPECTION METHOD REFERENCE
	Characteristics prior to packaging			
	Color and appearance		3.2	4.5.2
	Melting point (decomposition)		3.2	4.5.3 or 4.5.3.1
	Granulation		3.2	4.5.4
	Specific gravity		3.2	4.5.5
	Heavy metals		3.2	4.5.6
	Nitrogen content		3.2	4.5.7
	Workmanship		3.4	4.5.8
NOTES:				

ANSI/ASQC FORM 1570B, 1 JUL 89

Replaces 1570, 1 Feb 85, which may not be used.

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4.3.3 Rejection. If the sample fails to comply with any of the applicable requirements, the first article quantity shall be rejected. The Government reserves the right to terminate its inspection upon any failure of a sample to comply with any of the stated requirements.

4.4 Quality conformance inspection.

4.4.1 Inspection lot formation. A lot shall consist of one or more batches of tetracene produced by one manufacturer, in accordance with the same specification, or same specification revision, under one continuous set of operating conditions. Each batch shall consist of that quantity of tetracene that has been subjected to the same unit chemical or physical process intended to make the final product homogeneous. The criteria and procedure for the assignment of lot numbers shall be in accordance with MIL-STD-1168.

4.4.2 Examinations and tests.

a. Classification of characteristics. Quality conformance examinations and tests are specified in the following Classification of Characteristics paragraphs. The contractor's quality program or detailed inspection system shall provide assurance of compliance of all characteristics with the applicable specification requirements utilizing as a minimum the conformance criteria specified herein.

b. Alternative quality conformance provisions. Unless otherwise specified herein or provided for in the contract, alternative quality conformance procedures, methods, or equipment, such as statistical process control, tool control, other types of sampling procedures, etc., may be used by the contractor when they provide, as a minimum, the level of quality assurance required by the provisions specified herein. Prior to applying such alternative procedures, methods, or equipment, the contractor shall describe them in a written proposal submitted to the Government for evaluation (see 6.7). When required, the contractor shall demonstrate that the effectiveness of each proposed alternative is equal to or better than the specified quality assurance provision(s) herein. In cases of dispute as to whether the contractor's proposed alternative(s) provides equivalent assurance, the provisions of this specification shall apply. All approved alternative provisions shall be specifically incorporated into the contractor's quality program or detailed inspection system, as applicable.

QUALITY CONFORMANCE INSPECTION
CLASSIFICATION OF CHARACTERISTICS

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PARAGRAPH	TITLE	SHEET 1 OF 1		DRAWING NUMBER
4.4.2.1	Chemical and physical characteristics			NEXT HIGHER ASSEMBLY
CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	INSPECTION METHOD REFERENCE
<u>Critical</u>	None defined			
<u>Major</u>				
101	Color and appearance	4.4.3.2	3.2	4.5.2
102	Melting point (decomposition)	4.4.3.3	3.2	4.5.3
103	Granulation	4.4.3.3	3.2	4.5.4
104	Specific gravity	4.4.3.3	3.2	4.5.5
105	Heavy metals	4.4.3.3	3.2	4.5.6
106	Nitrogen content	4.4.3.3	3.2	4.5.7
<u>Minor</u>				
201	Workmanship	4.4.3.2	3.4	4.5.8

NOTES:

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4.4.3 Testing. PRECAUTION: This specification covers sampling and testing of toxic and hazardous material. Accordingly, it is emphasized that all applicable safety rules, regulations and procedures must be followed in handling and processing.

4.4.3.1 Sampling. Obtain two random 30 gm samples from each batch of tetracene being submitted for inclusion in a lot. The samples shall be obtained from the process vessel prior to packout using procedures described in ASTM-E300 for slurries.

4.4.3.2 Testing for batch acceptance. One sample obtained according to 4.4.3.1 from each batch shall be tested in accordance with the applicable test methods of 4.5 for conformance with the requirements for color and appearance (see 3.2), and workmanship (see 3.4). If any sample fails to meet any of these requirements, the batch represented by the sample shall be rejected. Rework of non-conforming batches is permitted.

4.4.3.3 Testing for lot acceptance. The second samples from the batches not rejected under the provisions of 4.4.3.2 shall be placed in a suitable container of sufficient volume to hold a composite sample from all batches in the lot. The tetracene batches shall be thoroughly mixed to assure homogeneity, and two sub-samples of approximately 30 gm each shall be obtained from this composite sample. Both sub-samples shall be tested in accordance with the applicable test methods of 4.5 to determine conformance with the requirements given in 3.2, Table I for melting and explosion points, granulation, specific gravity, presence of heavy metals and nitrogen content. If either sub-sample fails to meet any of the requirements, the lot represented by the composite sample shall be rejected.

4.4.4 Inspection equipment. For the performance of all test and examinations specified in 4.3 and 4.4, the equipment specified shall be employed. The contractor shall have the equipment available, utilize it in accordance with the test method, and is responsible to assure that it is properly calibrated. Government approval of all contractor designed inspection equipment is required prior to its use for acceptance testing (see 6.4).

4.5 Methods of inspection. All tests described in this section shall be performed using prescribed procedures for replicate determination given in standard analytical chemistry textbooks or ASTM D 2905. Unless otherwise specified herein, all chemicals shall be Reagent Grade or ACS Grade in accordance with

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MIL-STD-1218. If these grades are not available, all chemicals shall be the highest purity grade commercially available. See 6.5 for the use of equivalent test methods.

4.5.1 Preparation of dry sample. Transfer a portion of approximately 10 gm of the wet sample from 4.4.3.1 to a Buchner funnel and aspirate the sample to near dryness. Rinse once with denatured ethyl alcohol and again aspirate. Remove the filter paper and sample from the funnel place the sample in a drying dish and dry in an oven at 55°C for four hours. Use this sample for all determination in which a dry sample is required.

4.5.2 Color and appearance. Spread a portion of the representative wet sample from 4.4.3.1 over about 4 sq. cm. of a glass microscope slide and allow to air dry. Observe the color of the material, then examine under a microscope with reflected light at a magnification of 150 times (150X) for presence of foreign material. Optionally, samples may be photomicrographed at 50 magnification, identified with batch number and retained in file.

4.5.3 Melting point (decomposition). Weigh approximately 0.5 - 1.0 mg of dry tetracene obtained in 4.5.1 into a melting point capillary tube or, alternatively, fill the capillary tube according to standard practice, tapping lightly to fill the bottom of the tube and to a height of 5 to 10mm. Put on a safety mask and determine the melting point in a Vanderkamp apparatus or equal.

4.5.3.1 Alternate method for determination of melting point (decomposition). Determine the melting (decomposition) point by means of any commercially available melting point apparatus which uses samples packed in capillary tubes and whose temperature rise can be controlled to at least 0.3 degrees C per minute. In determining this property of tetracene, prepare a capillary tube sample in accordance with good laboratory practice or according to instructions accompanying the instrument. Rapidly bring the temperature of the instrument to the initial temperature of 120 degrees C and equilibrate until there is no fluctuation when held for at least 10 minutes at this temperature. Insert the sample of tetracene and raise the temperature at 0.3 degrees C per minute. The temperature at which the material first forms a meniscus in the capillary is the melting (liquefaction) point. The accuracy and precision of the instrument shall be periodically determined by means of certified standards melting in the vicinity of the liquefaction point of tetracene. Due caution must be exercised when heating this primary explosive. Samples may decompose with explosive force if heat is applied too

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rapidly and can cause operator injuries or instrument damage (6.5 applies).

4.5.4 Granulation. Transfer about 30 gm of the wet sample to a Buchner funnel and apply suction for 2-3 minutes. Weigh out a 10 gm portion of the damp sample and transfer it to a clean three inch US Standard No. 45 sieve which conforms to the requirements of RR-S-366. Carefully examine the sieve to be sure it is free of foreign material. Place the sieve in a porcelain evaporating dish which contains enough water to cover the wire screen of the sieve to a depth of about one half inch. Shake the sieve for a few minutes in such a manner that the tetracene is below the surface of the water and any material passing through the sieve is caught in the evaporating dish. When most of the tetracene has passed through the sieve, run a gentle stream of water through the sieve while brushing the residue gently with a soft camel-hair brush until all of the tetracene that will pass through the sieve has passed through it. Be sure that all of the tetracene passing through the sieve is caught in a container and none is washed down the drain. At the completion of this operation, visually examine the screen of the sieve for the presence of tetracene.

4.5.5 Specific gravity. Weigh a clean, dry 10 Ml pycnometer to the nearest mg. Fill the pycnometer with distilled water, adjust the temperature to 30°C and weigh to the nearest mg. Empty and dry the pycnometer. Transfer 0.2 to 0.4 g of tetracene to the pycnometer and weigh to the nearest mg. Add about 5 Ml of distilled water to the pycnometer and place under vacuum in a vacuum desiccator to remove any air bubbles from the sample. Add distilled water to fill the pycnometer to volume, adjust the temperature to 30°C and weigh to the nearest mg. Calculate the specific gravity of tetracene as follows:

$$\text{Specific gravity of tetracene} = \frac{(C-A)}{(B-A) - (D-C)}$$

Where:

- A = weight of pycnometer, gm
- B = weight of pycnometer plus water, gm
- C = weight of pycnometer plus tetracene, gm
- D = weight of pycnometer plus tetracene plus water, gm

4.5.6. Heavy metals. Proper safety precautions must be taken during the performance of the following procedure as hydrogen sulfide, NO_x and SO_x are toxic gases which may cause serious lung damage or death if inhaled. Transfer 0.30 ± 0.01 gm of dry tetracene obtained from 4.5.1 to a clean 250 Ml beaker and add 10 Ml of concentrated nitric acid and 5 Ml of concentrated

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sulfuric acid. Place the beaker on a hot plate and heat until heavy white fumes are noted. Add concentrated nitric acid dropwise until the solution in the beaker is clear. Remove the beaker from the hot plate and allow to cool. When cool, dilute the solution in the beaker to approximately 150 ML with distilled water and bubble hydrogen sulfide gas through the solution for several minutes. The presence of a precipitate confirms the presence of heavy metals. The presence of heavy metals may also be determined by the use of emission spectrometry (see 6.5).

4.5.7 Nitrogen content. A dry sample of 0.250 gm weighed to the nearest 0.1 mg of tetracene will be used for the nitrogen determination by the Kjeldahl method. Method 403.1 of MIL-STD-650 gives detailed instructions for performing this analysis. The Micro Dumas method may also be used for this analysis (see 6.5).

4.5.8 Workmanship. The product shall be visually inspected for the presence of foreign material during sampling (see 4.4.3.1 and 4.5.1) and during the color and appearance test (see 4.5.2).

5. PACKAGING

5.1 Unit Packing. Tetracene shall be packaged level A, B or C as required by procuring activity, in accordance with MIL-STD-2073-1, meeting the requirements of the Code of Federal Regulations, Title 49 (49 CFR).

5.2 Intermediate pack (Not Applicable)

5.3 Exterior pack. No more than 75 pounds of dry Tetracene packaged Level A, B or C as applicable shall be overpacked in accordance with MIL-STD-2073-1, meeting the requirements of 49CFR.

5.4 Marking

5.4.1 Unit Packaging. The Level A, B or C unit packages shall be marked in accordance with MIL-STD-129-1 and the following: NOMENCLATURE and QUANTITY, NATIONAL STOCK NUMBER (OR PART NUMBER), LOT NUMBER.

5.4.2 Intermediate Pack (Not Applicable)

5.4.3 Exterior Pack. Item Identification marking for level A, B or C exterior pack shall be in accordance with MIL-STD-129-1 and as required in 49 CFR, part 172, subpart D, Paragraph 172.301 (A) and the following:

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NOMENCLATURE AND QUANTITY
 NATIONAL STOCK NUMBER
 LOT NUMBER
 GROSS WEIGHT
 ANY OTHER SPECIAL MARKING
 POP MARKING (see note)

5.5 Performance oriented packing (POP). Packaging and packing as specified above, shall be in accordance with the applicable packing method as specified in the Code of Federal Regulations, Title 49, (49 CFR). Further, it shall be demonstrated that the pack meets all of the POP test requirements in accordance with 49 CFR. A POP test report shall be generated in accordance with DI-PACK-81059 (Data Item Description) following the tests. POP testing may be waived if an acceptable analogy in accordance with 49 CFR, to another pack which has successfully completed the testing, can be made. An analogy must also be documented in accordance with DI-PACK-81059. When completed, either POP test report must be kept on file by the contractor. (See 6.4.1) The POP marking to be applied to the exterior pack shall be as specified by the Government after review and acceptance of the submitted POP test reports.

NOTE: After completion of the requirements of 5.5, POP marking shall be applied to the pack as specified by the Government.

5.6 Item hazard classification. All U.S. manufacturers shall make certain that the item is tested in accordance with part 173, Subpart C, Section 173.58(A) or 49 CFR Parts 100-180 to assign proper Class and Division for all explosives (Division 1.1, 1.2, 1.3 and 1.4 Explosives).

Registration with the Associate Administrator of Hazardous Materials Safety is required in accordance with Part 173, Subpart C, Section 173.56(B) (1) or 173.56(C) of 49 CFR so that markings in accordance with 172, Subpart D, Section 172.301(A) and 172.320(A) are met. All foreign manufacturers shall make certain that the dangerous goods are tested in accordance with United Nations Committee of Experts on the Transportation of Dangerous Goods (as published in UN Document ST/SG/AC.10.11, latest revision, Recommendations on the Transportation of Dangerous Goods - Test and Criteria) to determine the proper division (Class i-9 and Division 1.1-1.6 for explosives). Registration for air and vessel transport is required for each manufacturing country's National Competent Authority. The Hazard Classification Letter of Competent Authority is issued in accordance with part 2, paragraph 1.3 of the International Civil Aviation Organization (ICAO) Technical Instructions and approves

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the hazardous classification and compatibility group assignment and assigns the appropriate shipping name to the dangerous goods. The proper packaging, marking and labeling is contained in the United Nations Committee of Experts on the Transportation of Dangerous Goods (as published in UN Document ST/SG/AC.10.1, latest revision, Recommendations on the Transport of Dangerous Goods).

For air transport, the dangerous goods must comply with the provisions of the International Air Transport Association (IATA) Dangerous Goods Regulations and for vessel transport, the dangerous goods must comply with the provisions of the Intergovernmental Maritime Organization's International Maritime Dangers Goods Code (IMDG Code).

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Tetracene (1- (5-terazolyl) - 4-guanyl tetrazene hydrate or guanyl nitrosamino guanyl tetrazene) described in this specification is an explosive intended for use in priming compositions.

(Tetracene is classified as a high explosive. All necessary precautions in the manufacture, handling and storage of such materials should be observed.)

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number and date of this detail specification.
- b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- c. First article requirements (see 3.3, 4.3 and 6.3).
- d. Level of packing protection required.

6.3 First article. When first article inspection is required the contracting officer should specify that the Contractor submit a first article sample as specified in 4.3.1. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results, and disposition of first articles. Invitations for bids should provide that the

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Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

6.4 Submission of inspection equipment designs for approval. Submit copies of designs as required to: Commander, U.S. Army ARDEC, ATTN: SMCAR-QAR-R, Picatinny Arsenal, NJ 07806-5000. This address will be specified on the Contract Data Requirements List, DD Form 1423 in the contract.

6.4.1 Submission of Contractor Test. The POP tests must be submitted to the Commander, U.S. Army ARDEC, ATTN: SMCAR-AEP, Picatinny Arsenal, NJ 07806-5000. (Note: If a POP test report is prepared against an acceptable analogy, the analogy POP test report must also be submitted to SMCAR-AEP. The IATA and IMDG documents shall be forwarded to Commander, U.S. Army AMCCOM, ATTN: AMSMC-PC, AMSMC-PG and AMSMC-SFS, Rock Island, IL 61299-6000. Vanderkamp Apparatus (Scientific Glass Apparatus Company, Catalog 59, M-1945, Bloomfield, NJ 07003.)

6.5 Equivalent test methods. The contractor may request to use alternate test method(s) providing that the proposed method is equivalent as a minimum (accuracy and precision) to the method given in this specification. Prior approval of the contracting officer is required for use of equivalent test methods. A description of the proposed method should be submitted through the contracting officer to Commander, SMCAR-QAR-R, Picatinny Arsenal, NJ 07806-5000. This description should include the procedures used, the accuracy and precision of the method, test data to demonstrate the accuracy and precision and drawings of any special equipment required.

6.6 Material Safety Data Sheets. Contracting officers will identify those activities requiring copies of completed Material Safety Data Sheets prepared in accordance with FED-STD-313. The pertinent Government mailing addresses for submission of data are listed in FED-STD-313.

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6.7 Submission of alternative quality conformance provisions. All contractor proposed alternative quality conformance provisions will be submitted to the Government for evaluation/approval by the technical activity responsible for the preparation of this specification.

6.8 Subject term (key word) listing. Explosive, 1-(5 tetrazolyl) -4-guanyl tetrazine hydrate, priming composition, initiating explosive.

6.9 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodian
Army-AR

Preparing activity:
Army-AR

(Project 1376-A493)