

INCH-POUND

MIL-DTL-45010B

2 September 2014

SUPERCEDING

MIL-C-45010A (MU)

26 September 1963

## DETAIL SPECIFICATION

## COMPOSITION C-4

This specification is approved for use by all Departments and Agencies of the Department of Defense.

## 1. SCOPE

1.1 Scope. This specification covers four classes of Composition C-4, a military plastic explosive.

1.2 Classification. Composition C-4 is of the following classes:

Class 1 – with a plasticity of 0.030 units, maximum (max).

Class 2 – with a plasticity of 0.080 units, max.

Class 3 – with a plasticity of 0.018 units, minimum (min).

Class 4 – with a plasticity of 0.030 units max and dyed.

## 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 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 cited in the solicitation or contract.

Comments, suggestions, or questions on this document should be addressed to: Commander, U.S. Army ARDEC, ATTN: RDAR-QES-E, Picatinny Arsenal, New Jersey 07806-5000 or e-mailed to [usarmy.picatinny.ardec.list.ardec-stdzn-branch@mail.mil](mailto:usarmy.picatinny.ardec.list.ardec-stdzn-branch@mail.mil). Since contact information can change, you may want to verify the currency of this information using ASSIST Online database at <https://assist.dla.mil>.

AMSC N/A

FSC 1376

Distribution Statement A. Approved for public release; distribution is unlimited.

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## INTERNATIONAL STANDARDIZATION AGREEMENTS

AOP-7	-	Manual of Data Requirements and Tests for the Qualification of Explosive Materials for Military Use
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## COMMERCIAL ITEM DESCRIPTIONS

A-A-59410	-	DMDNB (2, 3-Dimethyl-2, 3-Dinitrobutane)
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## DEPARTMENT OF DEFENSE SPECIFICATIONS

JAN-L-488	-	Lead Chromate (For Use in Ammunition)
MIL-DTL-398	-	RDX (Cyclotrimethylenetrinitramine)
MIL-P-14536	-	Polyisobutylene Binder

## DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-1168	-	Ammunition Lot Numbering and Ammunition Data Card
MIL-STD-1916	-	DOD Preferred Methods for Acceptance of Product
MIL-STD-650	-	Explosive: Sampling, Inspection and Testing

(Copies of these documents are available online at <http://quicksearch.dla.mil/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

## ASTM INTERNATIONAL

ASTM E300	-	Chemical, Industrial Sampling
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(Copies of ASTM standards are available online from <http://www.astm.org> and from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959.)

2.4 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

## 3. REQUIREMENTS

3.1 First article. When specified (see 6.2 and 6.13), first article inspection shall be performed in accordance with 4.2.

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3.2 Conformance inspection. A sample shall be subject to conformance inspection in accordance with 4.3.

3.3 Material. RDX shall be thoroughly and uniformly incorporated with a polyisobutylene binder to form a homogeneous composition having a soft, putty-like consistency (see 6.2 and 6.10).

3.3.1 RDX. The RDX shall be in accordance with MIL-DTL-398.

3.3.1.2 RDX granulation. The RDX content of Class 3 Composition C-4 shall consist of three parts nominal Class 1 and one part nominal Class 5 RDX.

3.3.2 Polyisobutylene binder. The polyisobutylene binder shall be in accordance with MIL-P-14536 or as specified in the contract (see 6.10).

3.3.3 DMDNB. The DMDNB shall be in accordance with A-A-59410.

3.4 Moisture. The moisture content shall not exceed 0.25 percent.

3.5 Composition. The composition shall be as specified in Table I:

TABLE I. Composition.

Class	Component	Percent (%)
1 and 2	RDX	$89.9 \pm 1.0$
	Polyisobutylene binder	$8.9 \pm 1.0$
	DMDNB	$1.2 \pm 0.25$
3	RDX	$89.4 \pm 0.7$
	Polyisobutylene binder	$9.4 \pm 0.7$
	DMDNB	$1.2 \pm 0.25$
4 See 6.2 and 6.7	RDX	$88.7 \pm 1.0$
	Polyisobutylene binder	$9.9 \pm 1.0$
	DMDNB	$1.2 \pm 0.25$
	Dye Content	$0.2 \pm 0.02$
	Dye Composition	
	Lead Chromate	90%
	Lamp Black	10%

3.6 Insoluble particles. No particles shall be retained on a No. 40 sieve, and not more than five particles shall be retained on a number 60 sieve from a 50 gram (g) portion of the sample.

3.7 Plasticity. The plasticity of Composition C-4 Class 1 shall be 0.030 units max. The plasticity of Composition C-4 Class 2 shall be 0.080 units max. The plasticity of Composition C-4 Class 3 shall be 0.018 units min. The plasticity of Composition C-4 Class 4 shall be 0.030 units max.

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3.8 Specific gravity (applicable to Class 2 only). Composition C-4 shall have a specific gravity of 1.50 min, when pressed into shape of an M5A1 Demolition Block. In the event that the manufacturer of the Composition C-4 also manufactures Composition C-4 demolition blocks, the specific gravity test may be waived and performed on the demolition block.

3.9 Large scale gap test (LSGT). The LSGT shall be conducted on the first article sample in accordance with 4.4.7. The LSGT data shall not be used to accept/reject the material.

3.10 Energetic material qualification. Composition C-4 and all energetic materials used therein shall be qualified for their intended military use by the Army Qualification Authority or as specified in the contract (see 6.14).

3.11 Workmanship. The manufacturer shall use procedures and controls which assure that the Composition C-4 produced does not contain foreign material such as dirt, rust, paint, metal chips or any other foreign objects and that the safety and reliability of the explosive are not compromised. Except for Class 4, Composition C-4 shall be off white in color.

## 4. VERIFICATION

TABLE II. Requirement/verification cross reference matrix.

Method of Verification		Classes of Verification						
1 – Analysis 2 – Demonstration (end item test) 3 – Examination 4 – Test		A – First Article  B – Conformance						
Section 3 Requirements	Description	Verification Method				Verification Class		Section 4
		1	2	3	4	A	B	
3.1	First Article	X	X	X	X	X		4.2
3.2	Conformance Inspection	X		X	X		X	4.3
3.3	Material			X		X	X	4.4.1
3.3.1	RDX			X		X	X	4.4.1.1
3.3.1.2	RDX granulation (for Class 3)			X		X	X	4.4.1.1.1
3.3.2	Polyisobutylene binder			X		X	X	4.4.1.2
3.3.3	DMDNB			X		X	X	4.4.1.3
3.4	Moisture				X	X	X	4.4.2
3.5	Composition		X		X	X	X	4.4.3
3.6	Insoluble particles				X	X	X	4.4.4
3.7	Plasticity				X	X	X	4.4.5
3.8	Specific gravity				X	X	X	4.4.6
3.9	LSGT				X	X		4.4.7
3.10	Energetic material qualification			X		X		4.4.8
3.11	Workmanship			X		X	X	4.4.9

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4.1 Classification of inspection. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see paragraph 4.2)
- b. Conformance inspection (see paragraph 4.3)

4.2 First article. When specified, a sample shall be subjected to first article verification in accordance with Table III. The testing shall apply for one (1) batch of Composition C-4 that has been produced by the contractor using the same production process, procedures, and equipment as will be used in regular production. All materials, except packaging, shall be obtained from the same sources as will be used in regular production.

4.2.1 First article quantity. The first article inspection shall be performed on the attributes listed in Table III for one (1) batch of Composition C-4 that has been produced by the contractor using the same production process, procedures, and equipment as will be used in regular production. All materials, except packaging, shall be obtained from the same sources as will be used in regular production.

4.2.2 Inspection to be performed. The first article inspection shall be performed in accordance with Table III.

4.2.3 First article rejection. If any item of the sample fails to comply with all first article requirements, the first article shall be rejected.

Table III. First article acceptance tests.

	Composition C-4	Requirement Paragraph	Inspection Method Reference
Critical: None defined			
Major:			
101	Material	3.3	4.4.1
102	RDX	3.3.1	4.4.1.1
103	RDX granulation (for Class 3)	3.3.1.2	4.4.1.1.1
104	Polyisobutylene binder	3.3.2	4.4.1.2
105	DMDNB	3.3.3	4.4.1.3
106	Moisture	3.4	4.4.2
107	Composition	3.5	4.4.3
108	Insoluble particles	3.6	4.4.4
109	Plasticity	3.7	4.4.5
110	Specific gravity	3.8	4.4.6
111	LSGT	3.9	4.4.7
112	Energetic material qualification	3.10	4.4.8
Minor:			
201	Workmanship	3.11	4.4.9

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### 4.3 Conformance inspection.

4.3.1 Lot formation. A lot shall consist of one or more batches of C-4 from up to 1 month of production of one composition designation only, 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 C-4 that has been subjected to the same unit chemical or physical mixing process intended to make the final product homogeneous. In addition, each lot shall contain:

- a. RDX of one type, from one interfix lot number and from one manufacturer only.
- b. Polyisobutylene of one type, from one interfix lot number, and from one manufacturer only.

Lot formation shall be in accordance with MIL-STD-1916, Formation and identification of lots or batches. The criteria and procedures for the assignment of lot numbers shall be in accordance with MIL-STD-1168.

### 4.3.2 Classification of characteristics.

4.3.2.1 Sampling. The tests described in 4.4 shall be performed on samples representative of the batch which were taken in accordance with ASTM E300, for solids. Approximately 1 kg sample shall be taken for each batch. If any sample fails to meet any test requirement, the batch represented by the sample shall be rejected.

### 4.4 Test Methods and Procedures. (see 6.12)

4.4.1 Material. Verify visually that the RDX is thoroughly and uniformly incorporated with a binder to form a homogenous composition having a soft, putty-like consistency.

4.4.1.1 RDX. Verify by examination of objective evidence that the RDX is in accordance with MIL-DTL-398.

4.4.1.1.1 RDX Granulation. Verify by examination of objective evidence that Class 3 Composition C-4 consists of three parts nominal Class 1 and one part nominal Class 5 RDX.

4.4.1.2 Polyisobutylene binder. Verify by examination of objective evidence that the polyisobutylene binder is in accordance with MIL-P-14536 or as specified in the contract (see 6.10).

4.4.1.3 DMDNB. Verify by examination of objective evidence that the DMDNB is in accordance with A-A-59410.

4.4.2 Moisture. The moisture shall be determined in accordance with MIL-STD-650, Method 101.4 or an approved equivalent method (see 6.9).

### 4.4.3 Determination of composition.

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4.4.3.1 RDX content.

4.4.3.1.1 Titration method (non-aqueous). An accurately weighed portion of approximately 1.5 g of the sample shall be added to a 50 milliliter (mL) beaker. Twenty-five mL of aliphatic naphtha shall be added and the beaker and contents transferred to a hot plate. The contents shall be swirled until all of the binder is dissolved as evidenced by the RDX crystals being separated. The beaker and contents shall be removed from the hot plate and cooled to room temperature. A fine porosity filter stick and suction shall be used to remove all of the aliphatic naphtha. Fifty mL of dimethylformamide shall be added to the beaker and the mixture stirred until all of the RDX is dissolved. The solution shall be transferred quantitatively to a 100 mL volumetric flask and make up to volume with dimethylformamide. (A blank shall be run with dimethylformamide so that the blank is exposed to the air approximately the same amount of time as the sample.) Twenty mL aliquots shall be withdrawn by pipette and transferred to a 100 mL tall form beaker containing 5 drops of azoviolet indicator solution and a magnetic stirrer. The beaker shall be covered with a glass cover containing a hole in the center to admit a buret tip and titrated with 0.1 normal sodium methoxide solution to a green endpoint which persists for 30 seconds. The magnetic stirrer shall be employed in the course of this titration. The titration procedure shall be repeated for the blank. The percentage of RDX in the sample shall be calculated as follows:

$$\text{Percentage RDX} = \frac{(A - B) \times (7.40) \times (N)}{W} \times 100$$

where:

A = volume of sodium methoxide used for the sample

B = volume of sodium methoxide used for the blank

N = normality of the sodium methoxide

W = weight of the sample on a moisture free basis represented by the aliquot taken

4.4.3.1.2 Gravimetric method. An accurately weighed portion of approximately 2 g shall be transferred to 100 mL beaker. Approximately 35 mL of reagent grade aliphatic naphtha saturated with RDX shall be added to the beaker. The beaker and contents shall be heated on a steam-heated hot plate. The beaker shall be covered and the contents stirred occasionally until the binder has gone into solution as evidenced by the RDX content being separated (approximately 30 minutes). The beaker and contents shall be removed from the steam hot plate and cooled to room temperature. The contents shall be filtered using a medium porosity glass crucible. The contents of the beaker shall be quantitatively transferred to the beaker crucible and washed with three 10 mL portions of reagent grade aliphatic naphtha saturated with RDX. The residue shall be aspirated until the reagent grade aliphatic naphtha has been completely removed. The crucible and contents shall be dried in steam oven maintained at 100 to 106 °C for one hour or a steam heated vacuum drier for 20 minutes. The crucible shall be cooled in a desiccator and weighed. The percent RDX shall be calculated as follows:

$$\text{Percentage RDX} = \frac{(A - B)}{W \times (1 - M)} \times 100$$

where

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A = weight of crucible and residue

B = tared weight of crucible

M = percent moisture expressed as a decimal

W = weight of sample

4.4.3.2 Dye content. The manufacturing process shall be demonstrated to verify that the percent dye content has been mixed with composition in compliance with Table I.

4.4.3.3 DMDNB content. DMDNB content is determined via HPLC (High Performance Liquid Chromatography).

4.4.3.3.1 HPLC conditions.

- a. Column – Spheri-5, RP-8 HPLC cartridge (Brownlee Part No. 0711- 0003); 5 micron spherical packing; 100 mm x 4.6 mm I.D. or equivalent.
- b. Mobile phase – 75% (by volume) distilled, deionized water; 12.5% (by volume) HPLC grade acetonitrile; 12.5% (by volume) HPLC grade methanol.
- c. Flow rate – 1.75 mL/min.
- d. Injection volume – 10  $\mu$ L.
- e. Detection wavelength – 210 nm.
- f. Temperature – ambient.
- g. Run time – 10 minutes.

*Note* - HPLC parameters (e.g. flow rates, mobile phase ratios, injection volumes, run times) may be adjusted to maintain adequate resolution and shape of the DMDNB peak and any impurities if present.

4.4.3.3.2 Standard preparation. Using analytically pure DMDNB (>99.5% purity), prepare 5 standards with the approximate concentrations shown below:

Table IV. Standard preparation.

STD	Concentration (g/mL)	Target Weight (g)	Dilution volume (mL) w/ HPLC grade Acetonitrile
1	0.00010	0.0100	100
2	0.00015	0.0150	100
3	0.00020	0.0200	100
4	0.00025	0.0250	100
5	0.00030	0.0300	100



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4.4.3.3.3 Sample preparation. Prepare four individual samples by weighing approximately 2 g of each sample, recorded to four decimal places, and diluting to 100 mL with HPLC grade acetonitrile. This will yield samples with an approximate DMDNB concentration of 0.00020 g/mL.

4.4.3.3.4 Analysis by HPLC & Calculation of Results. Once the HPLC system has been equilibrated, run all standards and samples to obtain peak areas for each. Using an appropriate software package (e.g., MS Excel), establish a calibration equation based on the concentrations of DMDNB in the five calibration standards and the HPLC chromatographic peak areas obtained from the analytical testing of the standards. The software utilizes a least squares regression analysis to determine the equation of fit for a straight-line regression. Using the calculated equation, the concentration of DMDNB in the samples can be determined.

Report the average of all four replicates as the % DMDNB for the batch.

4.4.3.4 Polyisobutylene binder. The percent of polyisobutylene binder shall be calculated on a dry basis by subtracting from 100 percent the percent of RDX as obtained in 4.4.3.1 and the percent of DMDNB as obtained in 4.4.3.3 for Composition C-4 Classes 1, 2, and 3. For Composition Class 4, the percent of polyisobutylene binder shall be calculated on a dry basis by subtracting from 100 percent the percent of RDX as obtained in 4.4.3.1, the percent of DMDNB as obtained in 4.4.3.3, and the percent of Dye content per 4.4.3.2.

4.4.4 Determination of insoluble particles. A weighed portion of approximately 50 g of the sample shall be placed in a 600 mL beaker. A 400 mL aliquot of petroleum ether or naphtha shall be added and the sample heated on a steam bath until all lumps are broken down and all soluble material is dissolved. The solution shall be decanted through a small number 40 U.S. Standard sieve placed on a number 60 U.S. Standard sieve. The insoluble material shall be retained in the beaker. Acetone shall be added to the beaker and the beaker and contents warmed on a steam bath to dissolve the insoluble matter. This mixture shall be poured through the nest of sieves making sure all insoluble matter is transferred to the sieves. Any residue left on the sieve shall be washed with acetone. The sieves shall be dried on a closed steam bath, and the particles of residue counted.

4.4.5 Plasticity. The plasticity shall be determined in accordance with Standard MIL-STD-650 method 211.2.

4.4.6 Specific gravity.

4.4.6.1 Apparatus.

4.4.6.1.1 Molds. Any suitable mold may be used which will permit  $2.50 \pm 0.5$  pounds of Composition C-4 to be pressed with a 5 ton load to form a block approximately 2 inches thick and the area of Composition C-4 supporting the load to be 22 square inches.

4.4.6.1.2 Preparation for determination of specific gravity. The mold, except for top cover, shall be assembled and a sheet of 5 to 10 mils thick cellophane or wax paper, cut to size,

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placed on the inside of the assembled mold. A weighed charge of  $2.50 \pm 0.5$  pounds of Composition C-4 shall be placed in the mold and manually distributed uniformly in the mold. The ends of the cellophane or wax paper shall be folded over the charge. The top cover of the mold shall be placed over the charge. The loaded assembly shall be transferred to a hydraulic press and the charge pressed using a load of five tons. A five-second dwell shall be used, the press retracted and the pressing operation repeated once. The block shall be removed from the mold and the cellophane or wax paper shall be carefully removed from the pressed block. Any excess explosive shall be trimmed from the edges of the block. The block shall be stored at  $25 \pm 2$  °C for 15 minutes on a flat surface.

4.4.6.1.3 Determination of specific gravity. The block shall be weighed to the nearest 0.01 pound when dry. The block shall be weighed immersed in water with water temperature at  $77 \pm 9$  °F ( $25 \pm 5$  °C), taking care to remove all air bubbles remaining on the surfaces of the block. The water temperature shall be recorded. The specific gravity shall be calculated as follows:

$$\text{Specific Gravity} = \frac{A}{A - B} \times C$$

where

A = weight of block dry

B = weight of block immersed in water

C = specific gravity of water at recorded temperature

#### 4.4.7 Large Scale Gap Test.

a. Gap test and configuration shall be performed in accordance with United States' procedures in AOP-7, US 201.04.002 for the LSGT (NOL).

b. Individual pellet density range shall be  $1.600 \pm 0.020$  g/cc. Overall charge density shall be  $1.600 \pm 0.020$  g/cc.

c. In the LSGT test, a positive result or "go" is recorded when a neat hole is punched in the plate. A broken plate or one with a poor quality hole is considered a "no-go." Report result as the card gap thickness that gives a 50% probability of detonation.

4.4.8 Energetic material qualification. Verify by examination of objective evidence that the Army Qualification Authority has qualified all energetic materials for use (see 6.14).

4.4.9 Workmanship. Composition C-4 shall be visually inspected for foreign material such as dirt, rust, paint, metal chips or any other foreign objects and that the safety and reliability of the explosive are not compromised. Except for Class 4, the Composition C-4 shall be off white in color.

## 5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as

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specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DOD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

## 6. NOTES

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

6.1 Intended use. The material covered in this specification is intended to be used as an extrudable or pressed explosive for application where high energy and ability to be shaped by hand are necessary.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number and date of this specification.
- b. Requirements for submission of first article sample.
- c. Special marking, when specified.
- d. Serialization requirements, if applicable.
- e. Certificate of conformance for each lot or shipment of product (if applicable).
- f. Government Furnished Material or equipment (if applicable).
- g. Process Control Document (see 6.13 if applicable).

6.3 Contract data requirements. When stated in the contract, acceptance and description sheets should be prepared by the contractor to show compliance with the specifications provided in section 3. The Worldwide Ammunition-data Repository Program (WARP) should be utilized to store the data sheets required by MIL-STD-1171A. The Munitions History network located at <https://mhpr.redstone.army.mil/> should be used to gain access to WARP.

6.4 Equivalent test methods. The test methods given in this specification are the official methods to be used. The contractor may request using other methods providing that the proposed method is equivalent (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 the technical agency. This description should include, but not be limited to, the accuracy and precision of the method, test data to demonstrate the accuracy and precision and

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drawings of any special equipment required.

6.5 Contractor acceptance inspection equipment (AIE). Provisions concerning the contractor's AIE used to verify the requirements of this specification should be specified in the contract.

6.6 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 agency responsible for the preparation of this specification.

6.7 Method of manufacture for Dyed Composition C-4. The lead chromate and lamp black should be mixed thoroughly before adding to the polyisobutylene at a rate of 4 to 5 grams per minute. The mixture should be agitated slowly in a folding action at 90°C. After all the pigment has been added, the mixture should be added to an RDX/water slurry at 21°C with fast agitation. Then the composition C-4 should be poured directly into a vacuum pan to draw off the water. (At this point the C-4 should have the appearance of tapioca pudding). The composition should be processed in a Wabash type Incorporator for 30 minutes and then dried in a drying house.

6.8 Technical agency. The technical agency responsible for the preparation of this specification is ARDEC, ATTN: RDAR-EIQ-MG and RDAR-MEE-W, Picatinny, NJ 07806 and ARDEC, ATTN: RDAR-MEE-W, Rock Island, IL 61299.

6.9 Moisture determination. Holston AAP Analytical Standard Method, ASM I-7 is approved as an equivalent method and may be used in lieu of Method 101.4 of MIL-STD-650.

6.10 Holston slurry process. The alternate method of manufacture of Composition C-4 is by the Holston Slurry Process (MI No 1131-1208 for Lacquer Preparation C-4 and MI No 1143-1201 RDX Coating - Comp C-4). Manufacture of Composition C-4 by the Holston Slurry Process exempts the manufacturer from the requirements of MIL-P-14536 except as follows:

a. Paragraph 1 and 2 should remain in effect and in addition, the manufacture should use only raw materials conforming to military specification cited in paragraph 2.

b. The ratio of binder components should be in accordance with paragraph 3.1.3 and should be controlled on the basis of input quantities to the Holston Slurry Process. MIL-P-14536 should be adhered to entirely when any other Composition C-4 manufacturing process is used or when the polyisobutylene binder exists as an isolable intermediate.

6.11 Composition C-4 manufactured before January 1994 and in accordance with MIL-C-45010A (Amendment 4) does not contain DMDNB in the formulation of Composition C-4.

6.12 This specification covers sampling and testing of toxic or hazardous materials. Accordingly, it is emphasized that all applicable safety rules, regulations and procedures should be followed in handling and processing these materials.

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6.13 Process control document. When a contract is awarded, a Process Control Document should be submitted to the Technical Agency (see 6.8) prior to the First Article Test. This document should contain a description of the process, all materials used, process conditions/procedures, and production/inspection equipment used to produce Composition C-4 meeting the requirements of this specification. In addition, whenever there is a change that requires lot interfix change (per MIL-STD-1168) such as the source of material, process conditions, procedures, etc. from those in the previous process control document, the Technical Agency (see 6.8) should be notified of the new process control change(s) and the reason for the change(s) within 10 business days from the change.

6.14 Energetic material qualification. When a contract is awarded to a manufacturer who has not previously produced Composition C-4 for the Government, qualification of energetic materials by the Army Qualification requires demonstration that the energetic material meets the requirements of AOP-7 and STANAG 4170. Point of contact for the Army Qualification Authority can be obtained from the Technical Agency (see 6.8).

6.15 Composition C4 should be packed and marked in accordance with drawing 7548645.

6.16 This revision of the specification incorporates ECP R12B3004.

6.17. Subject term (key word) listing.

Plastic explosive  
Moldable explosive  
Demolition Charge  
Polyisobutylene  
M112  
PIB  
RDX

6.18 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

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Custodian:

Army-AR

Navy-OS

Air Force- 99

Preparing Activity:

Army-AR

(Project 1376-2014-005)

Review activities:

Army-AV,TE

Navy-SH

Air Force-11, 70

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 Online database at <https://assist.dla.mil>.