MILITARY SPECIFICATION

COMPOSITION B4

1. SCOPE

1.1 This specification covers one type of high explosive designated as Composition B4 for use in Ammunition.

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

RR-S-366 - Sieves; Standards, For Testing Purposes.

MILITARY

MIL-R-00398 - RDX.
JAN-T-248 - Trinitrotoluene (TNT)
MIL-C-51077 - Calcium Silicate, Technical.

STANDARDS

FEDERAL

Federal Test Method-STD-791 - Lubricants, Liquid Fuels, and Related Products. Methods of Inspection, Sampling, and Testing.

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-109 - Inspection Terms and Definitions.

FSC: 1375

DRAWINGS

ORDNANCE CORPS

7548644 - Box, Packing for High Explosives, Assembly Details, Packing and Marking.
7548645 - Carton, Packing Reusable-Collapsible for High Explosives., Assembly, Details, Packing and Marking.
81-3-148 - Efflux Viscosimeter for Explosives.

PUBLICATIONS

ORDNANCE CORPS

ORD-M608-11 - Procedures and Tables for Continuous Sampling by Attributes.

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer).

3. REQUIREMENTS

3.1 Material.-The constituent materials used in the manufacture of Composition B4 shall comply with the following specifications:

Constituent Material	Conforming to:
RDX	MIL-R-00398 Type B
Trinitrotoluene (TNT)	JAN-T-248 Grade I
Calcium Silicate	MIL-C-51077

3.2 Composition.-The composition of Composition B4 shall be as specified in Table I when tested as specified in 4.3.1.

RDX, percent	60.0 plus or minus 2.0
TNT, percent	39.5 plus or minus 2.0
Calcium Silicate	0.5 plus or minus 0.1

3.3 Moisture.-The moisture content shall be 0.25 percent maximum (max.) when tested as specified in 4.3.2.

3.4 Viscosity.-The viscosity shall be 7.0 efflux seconds, max., when tested as specified in 4.3.3.

3.5 Insoluble particles.-Not more than five particles shall be retained on a number 60 United States Standard (US) sieve, when tested as specified in 4.3.4.

3.6 Form.-Unless otherwise specified in the contract or purchase order, Composition B4 shall be supplied in the form of buds, or as strips approximately 1 1/2 inches wide and 3 inches long when tested as specified in 4.3.5.

4. QUALITY ASSURANCE PROVISIONS

4.1 General quality assurance provisions.-The supplier is responsible for the performance of all inspection requirements specified herein. Except as otherwise specified, the supplier may utilize his own or any other inspection facilities and services acceptable to the Government. Inspection records of the examinations and tests shall be kept complete and available to the Government as specified in the contract or order. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements. Reference shall be made to Standard MIL-STD-109 in order to define the terms used herein. Inspection shall be performed in accordance with this specification and other specifications referenced in any of the contractual documents.

4.1.1 Contractor quality assurance system.-If the contractor desires to utilize a quality assurance system, which is at variance with the quality assurance provisions of 4.2 and 4.3 and other documents referenced herein, he shall submit a written description of the system to the contracting officer for approval prior to initiation of production. It shall include a description covering controls for lot formation and identification, inspections to be performed, inspection stations, sampling procedures, methods of inspection, (measuring and testing equipment), and provisions for control and disposition of non-conforming material. The written description will be considered acceptable when, as a minimum, it provides the quality assurance provisions required by the provisions of 4.2 and 4.3 and the other documents referenced herein. The contractor shall not be restricted to the inspection station

nor the method of inspection listed in this specification provided that an equivalent control is included in the approved quality assurance procedure. In cases of dispute as to whether certain procedures of the contractor's system provide equal assurance, the comparable procedure of this specification shall apply. The contractor shall notify the Government of, and obtain approval for, any changes to the written procedure which effects the degree of assurance required by this specification or other documents referenced herein.

4.1.2. Submission of product.-At the time the completed lot of product is submitted to the Government for acceptance, the contractor shall supply the following information accompanied by a certificate which attests that the information provided is correct and applicable to the product being submitted:

a. A statement that the lot complies with all quality assurance provisions of the approved current written description of the system.

b. Quantity of product inspected.

c. Results obtained for all inspection performed.

d. Specification number and date, together with an identification and date of changes.

e. Certificates of analysis on all material procured directly by the contractor when such material is controlled by Government specifications referenced in any of the contractual documents.

f. Quantity of product in the lot.

g. Date submitted.

The certificate shall be signed by a responsible agent of the certifying organization. The initial certificate submitted shall be substantiated by evidence of the agent's authority to bind his principal. Substantiation of the agent's authority will not be required with subsequent certificates unless, during the course of the contract, this authority is vested in another agent of the certifying organization.

4.1.3 Government verification.-Using the contractor's written quality assurance procedure (see 4.1.1) this detail specification, and other contractual documents as a guide, the Government inspector shall verify all quality assurance operations performed by the contractor. Verification shall be in accordance with a. or b. as applicable, the decision being the responsibility of the procuring activity. In either case, the inspector shall also ascertain, prior to acceptance, that all quality provisions of other specifications

referenced in any of the contractual documents have been complied with. Deviations from prescribed or agreed upon procedures discovered by the Government inspector shall be brought to the attention of the supplier. Disposition of the product and remedial action shall be as directed by the Government in spector and, depending on the nature of the deviation, may consist of lot rejection, screening, resampling, re-instruction of the supplier's employees, or other appropriate action:

a. Verification at the point of manufacture shall be accomplished at unscheduled intervals in accordance with 4.1.3.1 and 4.1.3.2.

b. Verification at the point of delivery shall be in accordance with 4.1.3.2.

4.1.3.1 Surveillance.-Surveillance shall include, but is not limited to:

a. Observation of procedures concerning lot formation and identification.

b. Observation of sampling procedures and application of acceptance criteria.

c. Determination that all required examinations and tests are performed in accordance with the prescribed procedures of this specification, or approved equivalents thereto.

d. Review of procedures for control and disposition of non-conforming material.

4.1.3.2 Product inspection.-Product inspection shall consist of Government inspection of product which has been previously inspected by the contractor and found to meet the quality assurance provisions of this specification. The inspection by the Government shall be performed to the degree necessary in order to determine that the product is of the quality required by this specification and that the contractor's records are reliable.

4.2 Inspection provisions.

4.2.1 Lot formation.-A lot shall consist of one or more batches of Composition B4 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 Composition B4 that has been subjected to the same unit chemical or physical mixing process intended to make the final product homogeneous.

4.2.2 Examination.-Sampling plans and procedures for the following classification of defects shall be in accordance with Standard MIL-STD-105. Continuous sampling plans, in accordance with Handbook ORD-M608-11 may be used if approved by the procuring activity. Also, at the option of the procuring activity, AQL's and sampling plans may be applied to the individual characterisitcs listed using an AQL of 0.25 percent for each major defect and an AQL of 0.40 percent for each minor defect.

4.2.2.1 Wooden box or fiberboard carton, prior to closing (see dwg. F7548644, and F7548645,)

Categories	Defects	Method of Inspection	Code No (see 6.2)
Critical:	None defined		
Major:	AQL 0.40 percent		
101.	Liner pierced or torn	Visual	01001
102.	Liner improperly closed	Visual	01002
103.	Foreign matter	Visual	01003
Minor:	AQL 0.40 percent		
201.	Type of liner incorrect	Visual	01004

4.2.2.2 Sealed wooden box (see dwg. F7548644).

Categories	Defects	Method of Inspection	Code No.
Critical:	None defined		
Major:	AQL 1.00 percent		
101.	Box damaged	Visual	02001
102.	DOD symbol misleading or unidentifiable	Visual	02002
103.	Top improperly assembled	Visual	02003
104.	Strapping broken, or loose	Visual Manual	02004
Minor:	AQL 1.50 percent		
201.	Nail protruding	Visual	02005
202.	Marking misleading or unidentifiable	Visual	02006
203.	Strapping improperly assembled.	Visual-Manual	02007

4.2.2.3 Sealed fiberboard carton (see dwg. F7548645)

Categories	Defects	Method of Inspection	Code No.
Critical:	None defined		
Major:	AQL 0.40 percent		
101.	Assembly torn or pierced	Visual	03001
102.	DOD symbol misleading or unidentifiable	Visual	03002
103.	Strapping broken or loose	Visual-Manual	03003
Minor:	AQL 0.40 percent		
201.	Marking misleading or unidentifiable	Visual	03004

4.2.3 Testing.-Samples shall be selected from each lot of Composition B4, in such number and amount as to insure that the samples shall be representative of the lot and shall be subjected to all tests specified herein. If the sample fails to comply with any of the requirements specified herein, the lot shall be rejected. The tests shall be performed as specified in 4.3.

4.3 Test methods.

4.3.1 Composition.

4.3.1.1 (TNT) content, Code No. 04001.-A weighed portion of 5.00 grams (gms.) of the sample shall be placed in a 500 milliliter (ml.) beaker, and 15 ml. of benzene saturated with RDX shall be added. The beaker shall be covered with a watch glass and placed on a steam bath for 30 minutes. The lumps shall be broken up with a glass rod and the solution agitated occasionally by swirling. After cooling to room temperature the solution shall be filtered through a tared filtering crucible. The insoluble residue shall be transferred from the beaker to the filtering crucible using four portions or more of 2 to 3 ml. each of benzene saturated with RDX. Air shall be drawn through the crucible until the odor of benzene is no longer detectable. The crucible and contents shall be dried for one hour at 100 degrees Centigrade (C.) plus or minus 5 degrees C., cooled in a desiccator, and weighed. The percentage of TNT shall be calculated as follows:

$$\text{Percent TNT} = \frac{100\ A-B}{W - (MW)}$$

where:

A = weight of crucible and sample.
B = weight of crucible and residue after benzene extraction.
W = weight of sample.
M = percent moisture in material, expressed as a decimal (see 4.3.2).

4.3.1.2 RDX content, Code No. 05001.-The crucible and residue from the TNT determination shall be extracted with 8 ten ml. portions of hot acetone. The acetone shall be allowed to remain in contact with the sample for one minute before applying suction. Air shall be drawn through the crucible until the odor of acetone is no longer detectable. The crucible and contents shall be dried for one hour at 100 degrees C. plus or minus 5 degrees C. cooled in a desiccator, and weighed. The percentage of RDX shall be calculated as follows:

$$\text{Percent RDX} = \frac{100\ B-C}{W - (MW)}$$

where:

B = weight of crucible and residue after benzene extraction.
C = weight of crucible and residue after acetone extraction.
W = weight of sample.
M = percent moisture in material, expressed as a decimal (see 4.3.2).

4.3.1.3 Calcium silicate, Code No. 06001.-The percent of calcium silicate shall be calculated as follows:

$$\text{Percent Calcium Silicate} = \frac{100\ C-D}{W - (MW)}$$

where:

C = weight of crucible and residue after acetone extraction.
D = weight of crucible and residue.
W = weight of sample.
M = percent moisture in material, expressed as a decimal (see 4.3.2).

4.3.1.4 Alternate method for TNT, Code No. 04002.-An accurately weighed portion of exactly 1.000 gm. of sample shall be transferred to 100 ml. volumetric flask and add 60

ml. of benzene (previously saturated with RDX). The flask shall be loosely stoppered and placed on a steam bath for 5 to 10 minutes with occasional swirling. The flask shall be removed from the steam bath and cooled to room temperature. The flask shall be made up to the mark with benzene saturated with RDX and shaken well and allow the RDX to settle to the bottom. Twenty ml. of the clear supernatant solution shall be transferred, using a pipet, to a 500 ml. titration flask from which the air has been swept out by a stream of carbon dioxide gas. Continue the flow of gas throughout the determination. Twenty five ml. of acetic acid and 25 ml. of concentrated hydrochloric acid shall be added to the titration flask and the contents shall be stirred by means of a magnetic stirrer for 10 minutes. Exactly 100 ml. of 0.2 normal (N) chromous chloride solution (see 6.3) shall be added to the flask and again stirred for 10 minutes. Fifteen drops of 2 percent aqueous phenosafranin indicator shall be added and titrated with 0.15 N ferric ammonium sulfate solution until a sharp color change from green to deep red. A blank determination shall be run following the same procedure but omit the sample. A constant temperature must be maintained for the blank and the sample. The percent of TNT shall be calculated as follows:

$$\text{Percent TNT} = \frac{6.310\ N\ (V_3 - V_4)}{W - (MW)}$$

where:

V_4 = ml. of ferric ammonium sulfate used to titrate the sample.
V_3 = ml. of ferric ammonium sulfate used to titrate the blank.
N = normality of the ferric ammonium sulfate solution.
W = weight in gm.
M = percent moisture in material, expressed as a decimal (see 4.3.2).

4.3.1.5 Alternate method for RDX, Code No. 05002.-An accurately weighed portion of exactly 0.5000 gm. of the sample shall be transferred to a 100 ml. volumetric flask. About 60 ml. of acetic acid shall be added to the flask and heated on a hot plate until the sample is completely dissolved. The flask shall be removed from the hot plate and allow to cool to room temperature. The flask shall be made up to the mark with acetic acid and shaken. Twenty ml. of the contents of the flask shall be transferred, using a pipet, to a 500 ml. titration flask from which the air has been swept out by a stream of carbon dioxide gas. Continue the flow of gas throughout the determination. Twenty five ml. of concentrated hydrochloric acid shall be added and stirred with a magnetic stirrer for 10 minutes. Exactly 100 ml. of 0.2 N chromous

chloride solution shall be added to the flask and stirred for 15 minutes. Fifteen drops of phenosafranin indicator shall be added and titrate with 0.15N ferric ammonium sulfate solution until a sharp color change from green to deep red. A blank shall be run following the same procedure but omit the sample. The percentage of RDX shall be calculated as follows:

$$\text{Percent RDX} = \frac{3.085\ N\left[\left(V_1 - V_2\right) - \frac{(V_3 - V_4)}{2}\right]}{W - MW}$$

where:

V_1 = ml. of ferric ammonium sulfate used to titrate the blank.
V2 = ml. of ferric ammonium sulfate used to titrate the sample.
V3 = ml. of ferric ammonium sulfate used to titrate the blank for TNT.
V4 = ml. of ferric ammonium sulfate used to titrate the sample for TNT.
N = Normality of ferric ammonium sulfate solution.
W = weight of sample.
M = percent moisture in material, expressed as a decimal (See 4.3.2).

4.3.1.6 Calcium silicate, Code No. 06002.-A weighed portion of 5.00 gm. of the sample shall be placed in a 500 ml. beaker and 50 ml. of acetone shall be added. The beaker shall be covered with a watch glass and placed on a steam bath and warmed. The lumps shall be broken up with a glass rod and the solution agitated occasionally by swirling. Decant the solution through a filtering crucible and treat the residue in the beaker with 20 ml. more of acetone. Filter the solution through the crucible. Transfer the insoluble residue completely to the crucible and wash it with acetone. The crucible and residue shall be dried in an oven at 110 degrees C. for 1 hour, cool in a desiccator and weigh. The percent calcium silicate shall be calculated as follows:

$$\text{Percent calcium silicate} = \frac{100A}{W-MW}$$

where:

A = the weight of the residue.
W = the weight of the sample.
M = percent moisture in material expressed as decimal (see 4.3.2).

4.3.2 Moisture

4.3.2.1 Karl Fischer method (alternate method) Code No. 07001 Them moisture shall be determined in accordance with Standard FED-STD-791, Method 3253, except the sample shall be 8 to 10 grams.

4.3.2.2 Conductimetric method Code No. 07002

4.3.2.2.1 Apparatus.-The following apparatus is required:

a. A conductivity cell having platinum electrodes coated with platinum black, and mounted in a glass case. The cell constant of the conductivity cell shall be approximately 0.1 reciprocal centimeter.

b. A conductivity bridge, of the Wheatstone type, having a range from 10,000 to 100,000 ohms, and a precision of 2 percent or better.

c. A glass stirrer of the propeller type.

d. A stirring motor.

e. A 200 milliliter (ml.) automatic pipette connected by means of a ground glass connection with a 5-gallon pyrex reservoir.

f. A 50-ml. automatic burette connected by means of a ground glass connection with a 5-gallon pyrex reservoir.

g. A wide-mouthed glass titration bottle of approximately 400-ml. capacity equipped with a tight fitting ground glass stopper.

h. A rubber stopper which fits the titration bottle, and which is provided with 3 holes, one for the conductivity cell, one for the stirrer, and one for the tip of the burette.

4.3.2.2.1.1 Assembly.-The apparatus shall be assembled as follows: The conductivity cell shall be inserted into the appropriate hole of the rubber stopper. A short piece of glass tubing shall be placed into another hole of the rubber stopper, to act as a sleeve for the shaft of the stirrer. The internal diameter of the glass tubing used shall be only slightly greater than the diameter of the shaft of the stirrer. The rubber stopper assembly shall be clamped to a suitable support. The shaft of the stirrer shall then be passed through the sleeve in the rubber stopper and attached to the stirring motor. The stirring motor shall be provided with a suitable support. The burette shall be set up so that the tip of the burette passes completely through the third hole in the rubber stopper. The electric leads from the conductivity cell shall be attached to the proper binding posts of the conductivity bridge.

4.3.2.2.2 Solutions.

4.3.2.2.2.1 Solution "A" (Acetic Acid-sulfuric acid).-A portion of 18.0 liters of approximately 99.9 percent glacial acetic acid shall be mixed with 85 ml. of approximately 96 sulfuric acid and 30 ml. of approximately 97.5 percent acetic anhydride in the 5 gallon pyrex reservoir, which is to be used with the 200 ml. automatic pipette. This solution shall have a blank titration value of not more than 3 ml. of solution B as determined in 4.3.2.2.2.3. If one blank titration of the solution exceeds 3 ml. of solution B, more acetic anhydride shall be added.

4.3.2.2.2.2 Solution "B" (acetic anhydride-acetic acid).- A portion of 2.0 liters of approximately 97.4 percent acetic anhydride shall be mixed with 15.0 liters of approximately 99.9 percent glacial acetic acid in the 5 gallon pyrex reservoir which is fitted with the 50 ml. automatic burette. This solution shall have a water equivalent value of approximately 0.02 gram (gm.) of water per ml., when standardized as specified in 4.3.2.2.2.3. The water equivalent value of the solution shall be adjusted if necessary, by adding more acetic anhydride or glacial acetic acid, the former increasing the value and the latter decreasing it.

4.3.2.2.2.3 Standardization of the solutions.

4.3.2.2.2.3.1 Preferred procedure.-Two hundred ml. of solution A shall be pipetted into the titration bottle. All necessary precautions shall be taken to minimize absorption of moisture from the atmosphere during this, and the subsequent operations. A weighed portion of approximately 0.5 gm. of water shall be added to the bottle, and the bottle attached to the rubber stopper assembly. The stirring motor shall then be started, and operated at such speed that the solid material (if any) remains in suspension, and the resistance of the solution shall be practically constant as measured with the conductivity bridge. The agitated solution shall be titrated with solution B 0.5 ml. portions being added at a time, and the resistance determined after each addition. As solution B is added, the resistance of the solution being titrated increases to a max. at the end-point and then decreases. The resistance values obtained shall be plotted on rectangular coordinates against the corresponding number of ml. of solution "B" added. A straight line shall be drawn through the two points on the plot just preceding the point of max. resistance value, and the line extended to interesect a similarly extended line drawn through the two points on the plot just

following the max. resistance value. The point of intersection of the two lines shall be considered as the end-point of the titration. The number of ml. of solution "B" corresponding to this end-point shall be recorded. A blank determination shall be made on a 200-ml. portion of solution A. The number of gm. of water equivalent to 1 ml. of solution B shall be calculated as follows.

$$E = \frac{W}{V-v}$$

where:

E = gm. of water equivalent to a 1 ml. of solution B
W = gm. of water added to standardization
V = ml. of solution B required to titrate the specimen.
v = ml. of solution B required to titrate the blank.

4.3.2.2.2.3.2 Alternate procedure.-The following procedure for determination of the titration end-point may be used as an alternate to the procedure specified in 4.3.2.2.2.3.1. The progress of the titration shall be followed by adjusting the conductivity bridge reading, sufficiently above or below the actual resistance of the solution so that the shadow in the "Eye" appears as a hairline. The reading of the bridge shall be increased uniformly so that the appearance of the shadow remains constant through the titration. The end-point is shown in the"eye" by a slight opening of the shadow if the reading of the bridge is just below the resistance of the solution, and by the fading or disappearance of the shadow if the reading of the bridge is just above the resistance of the solution.

4.3.2.2.3 Procedure.-A specimen shall be crushed to a particle size of approximately 3/4 in. or smaller. A weighed portion of approximately 50 gm. shall be transferred to the titration bottle. A 200 ml. portion of solution "A" shall be added, necessary precaution being taken to minimize absorption of moisture from the atmosphere by the solution during this operation. It shall be ascertained that none or the specimen remains on the ground surfaces, then the bottle shall be stoppered with the glass stopper, and the contents of the bottle agitated until all of the TNT is dissolved. The glass stopper shall be removed and the bottle attached immediately to the rubber stopper assembly. The solution shall be titrated and the number of ml. of solution "B" equivalent to the end-point of the titration determined in a manner similar to that used in the standardization of solution "B" as specified in 4.3.2.2.2.3. The percentage of moisture in the specimen shall be calculated as follows;

$$\text{Percent moisture} = \frac{100E\ (V-v)}{W}$$

where:

V = ml. of solution "B" required to titrate the specimen.
v = ml. of solution "B" required to titrate blank.
E = gm. of water equivalent to 1 ml. of solution "B"
W = gm. of specimen.

4.3.3 Determination of viscosity (Efflux method), Code No. 08001.-An efflux viscosimeter shall be prepared in accordance with Drawing 81-3-148 or approved equal, approximately 500 gm. of the sample material shall be placed in a melt pot and the agitator started. The jacket of the melt pot shall be heated with steam at 10 pounds per square inch. No control of temperature need be maintained in the pot other than that obtained by controlling the steam pressure. The temperature of the water circulating through the jacket on the viscosimeter cone shall be thermostatically controlled at 85 degrees C. As the sample melts it will flow into the viscosimeter cone. The material in the cone, shall be stirred by hand with a thermometer until the temperature of the entire sample is 85 degrees C. Stirring of the molten sample shall be continued with occasional vertical movement, until it is entirely free of lumps and there is no segregation of RDX. The temperature of the sample shall be adjusted to 85.0 degrees C. and then the thermometer and rubber stopper removed from the bottom of the cone to permit the molten sample to flow freely into a pan. The time required for the surface of the molten sample to fall from the tip of the upper marker to the tip of the lower marker shall be measured with a stop watch graduated in tenths of a second. The timing shall be started at the instant the upper indicating pointer pierces the surface of the molten sample and stopped when the surface is broken by the lower indicating pointer. This time interval is the efflux viscosity of the sample, and shall be recorded to the nearest tenth of a second.

4.3.4 Insoluble particles, Code No. 09001.-A 50 gm. portion of the sample shall be weighed in a 400 ml. beaker. One-hundred ml. of acetone shall be added and the beaker and contents heated on a steam bath until all the lumps are broken down and all soluble material is dissolved. The mixing shall be poured through a small US Standard Number 60 sieve complying with the requirements of Specification RR-S-366. Care should be taken to wash all the insoluble matter from the beaker with acetone. The residue on the sieve shall be washed with acetone to remove the RDX and dry the sieve. The particles retained shall be counted.

4.3.5 Form, Code No. 10001.-The form shall be determined visually.

5. PREPARATION FOR DELIVERY

5.1 Packing (see 6.1)

5.1.1 Level A.-Composition B4 shall be packed and marked in accordance with Drawing 7548644.

5.1.2 Level C.-Composition B4 shall be packed and marked in accordance with drawing 7548645.

6. NOTES

6.1 Ordering data.-Procurement documents should specify the following:

a. title, number and date of this specification.
b. level of protection required.

6.2 Inspection code numbers.-The five digit code numbers assigned to the inspection herein are to facilitate future data collection and analysis by the Government.

6.3 Chromous Chloride solution.-Method for the preparation of 0.2N chromous chloride solution may be found in Picatinny Arsenal Technical Memorandum No. ACS-3-60 "Determination of Nitrogenous Compounds of Ordnance Interest by Chromous Chloride Reduction (1) Compound containing Nitro and Nitramine Groups" by Charles C. Jamison dated May 1960 which may be obtained from Picatinny Arsenal, Dover, N.J.

Notice.-When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

Custodian:
Army-Ordnance Corps

Preparing activity:
Army-Ordnance Corps

GPO 820435

SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 119-R004

INSTRUCTIONS

This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity *(as indicated on reverse hereof)*.

SPECIFICATION

ORGANIZATION *(Of submitter)*

CITY AND STATE

CONTRACT NO.

QUANTITY OF ITEMS PROCURED

DOLLAR AMOUNT
$

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A. GIVE PARAGRAPH NUMBER AND WORDING.

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES.

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE?

☐ YES ☐ NO IF "YES", IN WHAT WAY?

4. REMARKS *(Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)*

SUBMITTED BY *(Printed or typed name and activity)*

DATE

DD FORM 1 APR 63 1426 REPLACES NAVSHIPS FORM 4863, WHICH IS OBSOLETE PLATE NO. 15419