

MIL-STD-1171 (MU)
15 January 1971

MILITARY STANDARD
ACCEPTANCE AND DESCRIPTION SHEETS
(FOR PROPELLANTS AND EXPLOSIVES)



FSC: 1376

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15 January 1971

DEPARTMENT OF DEFENSE
WASHINGTON, D. C.
20301

Acceptance and Description Sheets for Propellants and Explosives
MIL-STD-1171(MU)

1. This Military Standard is mandatory for use by the Department of the Army.
2. Recommended corrections, additions, or deletions should be addressed to: Commanding Officer, Picatinny Arsenal, ATTN: SMUPA-ND, Dover, New Jersey, 07801.

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1. SCOPE

1.1 This Standard provides for the preparation and distribution of Description and Acceptance Sheets for high explosives, chemical materials, etc., Propellant Description Sheets, Propellant Acceptance Sheets, Rocket Propellant Description Sheets, and Rocket Propellant Acceptance Sheets.

1.2 PURPOSE.-The acceptance description sheet is a record showing the method of production and the results of inspection performed. In general, description sheets assist in the performance of such functions as determining the quality of propellants or explosives, comparing and evaluating the processes of various loading plants producing the same item, investigating the cause of trouble, and facilitating future surveillance and renovation.

2. REQUIREMENTS.-Acceptance and Description Sheets will be prepared for each lot of propellants, explosives, and chemicals when specified in the Contract or Specification.

2.1 Supplemental Acceptance and Description Sheets will be prepared under the following conditions:

2.2.1 When the status of a lot is changed, or when a previously suspended, rejected, or incomplete lot is submitted for ballistic tests, a supplemental lot description sheet will be prepared, outlining the reason for the changed status.

2.1.2 When a rejected or suspended lot is reworked, a supplemental description sheet will be prepared for such renovated lot, describing the background of the lot, the rehabilitation performed, and the results of plant inspection and testing after reworking.

3. SOURCE OF SUPPLY OF SHEETS.-Ditto masters of Description and Acceptance Sheets are stocked by Picatinny Arsenal, Dover, New Jersey. The sheets may be reproduced by mimeograph, offset printing processes, individual typing, or any process which results in a clean, black image.

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PROPELLANT DESCRIPTION SHEET

SMU FORM 1047

1. Purpose.-The Propellant Description Sheet, SMU Form 1047, is used to show the identity of the lot, acceptable blend numbers of nitrocellulose, data concerning the manufacturing process and some process control test results, die sizes, and the results of physical and chemical acceptance tests on each lot of propellant other than rocket propellant. It serves as a statement of inspection of the lot of propellant.

2. Preparation.-The responsibility for proper preparation of SMU Form 1047 rests with the inspector. However, since the contractor is required to supply much of the information necessary to complete the form, duplication of effort will be avoided if the information is supplied by the contractor on the form itself, but such action in no way relieves the inspector of his final responsibility for the report, to the correctness of which he must attest by signature.

2.1 A Propellant Description Sheet will be prepared for each lot of propellant, other than rocket propellant, manufactured, reworked, or rebled.

2.2 When a lot, previously accepted, is rebled or reworked, a Supplemental Propellant Description Sheet will be prepared to indicate the added processing and the results of any added acceptance tests.

2.3 When a lot of propellant is produced by blending together several lots which have been previously accepted as individual lots, the quantities of propellant in pounds, type of propellant, lot numbers, and the weapon and model for which each lot is intended will be shown on the reverse side of the Propellant Description Sheet.

EXAMPLE:

Propellant comprising this blend is as follows:

- 1742 lb. Prop., M1, IND.
Lot 15136 for 155MM Gun, M1, Charge, M19
- 26457 lb. Prop., M1, IND.
Lot 30708 for 155MM Gun, M1, Charge, M19
- 13337 lb. Prop., M1, IND.
Lot 30709 for 155MM Gun, M1, Charge, M19

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3608 lb. Prop., M1, IND.
Lot 30711 for 155MM Gun, M1, Charge, M19

26121 lb. Prop., M1, IND.
Lot 32670 for 155MM Gun, M1, Charge, M19

71265 lb. approximate weight before blending.

2.4 Normally, results of tests will be reported to the number of decimal places required in the test procedure, but never to less than the number of decimal places shown in the specification or other applicable requirements. For purposes of establishing acceptability, the test results will be considered as acceptable when the results, as rounded off to the number of decimal places shown in the specification, do not exceed (or fall below) the expressed requirements. In rounding off the numerical values of test results, the last significant figure (the terminal decimal figure of the expressed requirement) will be increased by one when the discarded figure is five or greater.

2.5 Form.-The information required will be entered on the SMU Form 1047, Propellant Description Sheet, in accordance with instructions in the following paragraphs, and sufficient copies will be produced to meet distribution needs. Paragraphs have been numbered to correspond with the numbers on the sample form.

SPACE 1. LOT NUMBER.-Enter the lot number assigned by the contracting officer and the year of manufacture.

SPACE 2. COMPOSITION NUMBER.-Show the composition number, type grain, and, for small arms propellant, the IMR number.

EXAMPLE:

M10, Type I, M12, IMR 5010.

SPACE 3. FOR.-Show weapon model, and projectile for which the lot was intended.

SPACE 4. MANUFACTURED AT.-Give the manufacturer's name and plant location, as contained in the contract or production order. In the case of a Government-owned works or arsenal, use the title of the works or arsenal.

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SPACE 5. PACKED WEIGHT.-Show the weight in pounds as packed.

SPACE 6. CONTRACT NUMBER.-Give the applicable contract number.

SPACE 7. DATE.-Enter the date of the contract.

SPACE 8. SPECIFICATION NUMBER.-Show the applicable specification number.

SPACE 9. NITROCELLULOSE.-Show the acceptable blend numbers of nitrocellulose used in the lot. Indicate whether the lot is made from cotton linters or wood sulfite cellulose.

SPACE 10. NITROGEN CONTENT
K.I. STARCH TEST
(65.5°C)
STABILITY TEST
(134.5°C)

List the maximum, minimum, and average results of these tests for the nitrocellulose used in the lot.

SPACE 11. MANUFACTURE OF PROPELLANT.-List the weight of solvent per pound of NC and the percentages of ether, alcohol, or acetone used as solvents. List the percent of remix to whole.

SPACE 12. PROCESS-SOLVENT RECOVERY AND DRYING.-List temperatures and time cycles for solvent recovery and drying operations. Drying operations include water-dry and air-dry.

SPACE 13. TESTS OF FINISHED PROPELLANT.-Enter the constituents of the propellant, the formula (nominal or as specified) and the percentages as determined by acceptance analysis in the "Composition" block. Enter results of acceptance test for stability (minutes), form of grain, number of perforations, and compression test results in the "Stability and Physical Tests" block.

SPACE 14. CLOSED BOMB.-Enter the Lot Number and the Standard Number, temperature, relative quickness, relative force, and method.

SPACE 15. DIE (INCHES).-List actual physical dimensions of the die used.

SPACE 16.-Under column headed "finished", list dimensions of finished propellant grain (average) as determined by measurement.

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SPACE 17.-Under column headed "mean variation", list (for length and diameter) results of calculation of mean variation in percent.

SPACE 18.-Show date packed, date offered, date sampled, date tests completed, and date description sheet forwarded to the contracting officer. The term "date offered" is defined as the date on which the manufacturer notifies the inspector that a lot is ready to be sampled. Show type of packing box used, including box drawing number and applicable revision date.

SPACE 19. REMARKS.-Enter statement that lot either meets specification requirements or fails to meet one or more of such requirements. Add any information as to unusual conditions of manufacture which could affect usability of the lot.

SPACE 20. CONTRACTOR REPRESENTATIVE.-The representative signing for the contractor should be an official of sufficient authority to exercise control over the contractor's inspection and production. His signature should appear over his typed name.

SPACE 21. GOVERNMENT QUALITY ASSURANCE REPRESENTATIVE.-The signature of the Quality Assurance Representative, or a person designated to sign for him, is required to indicate Government acceptance insofar as physical and chemical requirements are concerned. The signature of the individual will appear above his typed name.

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3. Distribution.-Normal distribution of the Propellant Description Sheet, SMU Form 1047, will be as follows:

	<u>Number of Copies</u>
U.S. Army Ammunition Procurement and Supply Agency	
SMUAP-REI thru SMUAP-RO	1
SMUAP-AMS	1
U.S. Army Picatinny Arsenal	
SMUPA-ND	1
SMUPA-DE	1
SMUPA-VG	1
(Surveillance Laboratory)	
Inspection Office of Agency responsible for inspection	1
Inspection Office of Agency Administrrating Contract (When different from above)	1
Destination of Propellant Aberdeen Proving Ground Maryland Director AMSAA ATTN: AMXRD-ARW	2

3.1 Additional copies may be prepared to meet the internal distribution needs of the contracting officer or the contractor.

3.2 Distribution of such description sheets for propellants will be expedited to insure their delivery prior to the arrival of the material.

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PROPELLANT ACCEPTANCE SHEET

SMU FORM 1060

1. Purpose.--The Propellant Acceptance Sheet, SMU Form 1060, is the official document indicating acceptance or rejection of a propellant lot. This form also serves as the authorization for loading the propellant in the indicated cartridges or propelling charges.

2. Preparation.--A Propellant Acceptance Sheet, SMU Form 1060, will be prepared for each lot of propellant manufactured (other than rocket-type propellants), and will indicate acceptance or rejection of the lot. The responsibility for preparation of this form belongs with the QA directorate of the Procuring Activity. Actual preparation is usually delegated to the Resident Government Inspection Officer.

2.1 Propellant Acceptance Sheets, when used to report results of inspection and rejection, will have the words "Accepted" or "Acceptance" obliterated and replaced with "Rejected" or "Rejection". Such reports will show clearly and explicitly the cause for rejection.

3. Form.--The information required will be entered on SMU Form 1060, Propellant Acceptance Sheet, in accordance with instructions in the following paragraphs, and sufficient copies will be produced to meet distribution needs. Paragraphs have been numbered to correspond with the numbers on the sample form.

SPACE 1. WEAPON.--Enter the name of the weapon in which the propellant is intended to be used.

SPACE 2. MODEL.--Enter model number or numbers of the weapon in which the propellant is intended to be used.

SPACE 3. LOT NUMBER.--Enter the propellant lot number.

SPACE 4. ACCEPTANCE DATE.--Enter date of final acceptance of the propellant lot.

SPACE 5. PRODUCED BY.--Enter manufacturer's name as contained in the contract or production order.

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SPACE 6. AT.-Enter the geographical location of contractor's plant or the name of the Government plant or arsenal where the lot was produced.

SPACE 7. CONTRACT NUMBER.-Enter applicable contract number

SPACE 8. WEIGHT OF LOT.-Enter accepted weight of the lot. Note that the accepted weight is not always identical with the packed weight, since acceptance samples, which are always included in the accepted weight, are not always packed out with the balance of the lot.

SPACE 9. PROOF FIRED BY.-Enter name of proving ground at which ballistic acceptance tests were conducted.

SPACE 10. FIRING RECORD NUMBER.-Enter the number of the Firing Record, giving the results of the ballistic tests and the charge weight assessment for the propellant lot.

SPACE 11. PROJECTILE.-Enter model number of projectiles used in ballistic acceptance test.

SPACE 12. WEIGHT.-Enter weight, as fired, of projectiles listed in SPACE 11.

SPACE 13. PROJECTILE LOT NUMBER.-Enter lot number of the projectiles used in ballistic acceptance test.

SPACE 14. TEMPERATURE OF POWDER.-Show the temperature, in degrees F., at which ballistic acceptance test was conducted.

SPACE 15. STANDARD PROPELLANT LOT.-Give lot number of the standard or reference propellant used in ballistic acceptance test.

SPACE 15. TEMPERATURE OF PROPELLANT.-Show the temperature, in degrees F., at which ballistic acceptance test was conducted.

SPACE 16. TYPE.-Enter, if applicable, the numeral (I or II) indicating the type of propellant being accepted.

- a. The numeral "I" will be used for multi-perforated grains.
- b. The numeral "II" will be used for single-perforated grains.

SPACE 17. M.-Enter the composition symbol, such as M1, M6, etc.

SPACE 18. AVERAGE WEB.-Enter the average web of the propellant lot as measured. In the case of sheet propellant, such as mortar increments, enter the average sheet thickness.

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SPACE 19. SPECIFICATION.-Enter the number of specification to which the propellant lot was manufactured.

SPACE 20. DATED.-Enter date the specification was issued.

SPACE 21. WITH REVISION.-Enter the applicable revision of the specification cited in SPACE 19.

SPACE 22. DATED.-Enter date applicable revision (SPACE 21) was issued.

SPACE 23. INCREMENT NUMBER.-For zoned weapons, enter in proper order the numbers of the zones for which a charge was recommended on the basis of acceptance ballistic tests. No entry will be made for weapons which are not zoned.

SPACE 24. INCREMENT WEIGHT.-For zoned weapons, enter opposite the zone number (SPACE 23) that weight of charge established for the individual increment, which, when added to the sum of the charge weights of all lower zones, will represent the charge recommended for that particular zone on the basis of ballistic acceptance tests.

SPACE 25. TOTAL INCREMENT WEIGHT.-For zoned weapons, enter opposite the zone number (SPACE 23) the total weight of charge recommended for that particular zone on the basis of ballistic acceptance tests. For weapons which are not zoned, enter the weight of charge recommended on the basis of ballistic acceptance tests.

SPACE 26. PROJECTILE WEIGHT.-Enter the weight of the projectile used in ballistic acceptance tests.

SPACE 27. VELOCITY, FEET/SECONDS.-Enter the service velocity for which the projectile was designed. For zoned weapons, a service velocity will be listed opposite each zone entered in SPACE 23.

SPACE 28. PRESSURE, POUNDS/SQUARE INCHES.-Enter the pressure predicted at recommended charge. For zoned weapons, a pressure prediction will be entered opposite each zone listed in SPACE 23.

SPACE 29. SIGNATURE.-The signature of the person signing the acceptance report, and thus accepting the material, will appear over his typed name. Specimen signatures of all personnel (military and civilian) authorized by the Chief of the Quality Assurance Directorate (the Commanding Officer or the District Chief) to sign inspection documents.

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SPACE 30. WEAPON AND MODEL.--Enter the name of the weapon, and model number of that weapon, for which loading is being authorized.

SPACE 31. TYPE.--For complete rounds, enter the abbreviations for the types of shell or shot for which loading is being authorized, e.g., HE. For propelling charges, enter "Prop. Chg.".

SPACE 32. MODEL.--Enter the model designation, such as M315, opposite the type listed in SPACE 31.

SPACE 33. PROJECTILE WEIGHT.--For complete rounds, enter the weight of the projectile opposite its model number in SPACE 32. Make no entry for propelling charges.

SPACE 34. DRAWING.--For complete rounds, enter the drawing number for the complete round opposite the model number listed in SPACE 32. For propelling charges, enter the drawing number of the propelling charge.

SPACE 35. DATE LAST REVISION.--Enter date of last revision of the drawing of the complete round or propelling charge.

SPACE 36. THIS LOADING AUTHORIZATION EXPIRES AFTER.--Enter the month and year (normally five years from date of most recent assessment).

SPACE 37. LOADING AUTHORIZATION ISSUED TO.--When applicable, enter the name of the specific loading plant to which loading authorization has been issued.

SPACE 38. SIGNATURE.--The signature of the person signing the loading authorization will appear over his typed name.

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4. Distribution.-Distribution of Propellant Acceptance Sheet, SMU Form 1060, will be in accordance with the following instructions:

Number of Copies

U.S. Army Ammunition Procurement and Supply Agency

SMUAP-REI Thru SMUAP-RO	1
SMUAP-AMS	1

U.S. Army Picatinny Arsenal

SMUPA-ND	1
SMUPA-DE	1
SMUPA-VG	1

Inspection Office of Agency responsible for inspection	1
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Inspection Office of Agency Administering Contract (When different from above)	1
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Destination of Propellant	2
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Aberdeen Proving Ground, Maryland Director AMSAA ATTN: AMXRD-ARW	1
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4.1 Distribution of such acceptance sheets for propellants will be expedited to insure their delivery prior to the arrival of the material.

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PROPELLANT ACCEPTANCE SHEET		WEAPON <div style="text-align: center;">1</div>		LOT NUMBER <div style="text-align: center;">3</div>	
		MODEL <div style="text-align: center;">2</div>		ACCEPTANCE DATE <div style="text-align: center;">4</div>	
MFG. BY HERCULES INCORPORATED 5		PROOF FIRED BY 9		PROVING GROUND	
AT RADFORD ARMY AMMUNITION PLANT 6		FIRING RECORD NO. 10			
RADFORD, VIRGINIA 6		PROJECTILE 11		WEIGHT 12	
CONTRACT NO. W-11-173-AMC-37(A) 7		PROJECTILE LOT NO. 13			
WEIGHT OF LOT 8		TEMPERATURE OF POWDER 14		°F 15	
STANDARD PROPELLANT LOT					
PROPELLANT DESCRIPTION					
TYPE 16		M 17			
AVERAGE WEB 18					
SPECIFICATION 19		DATED 20		WITH REVISION 21 DATED 22	
CHARGE WEIGHTS					
INCREMENT NO.	INCREMENT WT.	TOTAL INCREMENT WT.	PROJECTILE WEIGHT	VELOCITY FT./SEC.	PRESSURE LBS./SQ. IN.
23	24	25	26	27	28
THIS PROPELLANT LOT IS ACCEPTED					
29 CHIEF QUALITY ASSURANCE DIVISION					
LOADING AUTHORIZATION					
THE PROPELLANT LOT DESCRIBED ABOVE MAY BE USED IN LOADING ANY OF THE AMMUNITION ITEMS LISTED BELOW EXCEPT WHERE QUANTITIES ARE SPECIFICALLY ALLOTTED FOR A PARTICULAR PURPOSE					
WEAPON AND MODEL		COMPLETE ROUND OR PROPELLING CHARGE			
	TYPE	MODEL	PROJECT WT.	DRAWING	DATE OF LAST REVISION
30	31	32	33	34	35
THIS LOADING AUTHORIZATION EXPIRES AFTER 36 AT WHICH TIME REBLENDING OR REASSESSMENT WILL BE CONSIDERED.					
LOADING AUTHORIZATION ISSUED TO					
37 (12-7) 38					

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ROCKET PROPELLANT ACCEPTANCE SHEET

SMU FORM 1057

1. Purpose.-The Rocket Propellant Acceptance Sheet, SMU Form 1057, is intended to serve as the authorization for loading the propellant into JATO's rocket propelling charges, grains, or assemblies as indicated.

2. Preparation.-A Rocket Propellant Acceptance Sheet will be prepared for each lot of rocket-type propellant manufactured and will indicate acceptance or rejection of the lot. The form will be prepared by Picatinny Arsenal for material proof-tested at the arsenal; the Quality Assurance Directorate at APSA (SMUAP-RO); or by those installations to which that office has delegated the authority to make final acceptances.

2.1 Rocket Propellant Acceptance Sheets, when used to report results of inspection and rejection, will have the words "Accepted" or "Acceptance" obliterated and replaced with "Rejected" or "Rejection". Such reports will show clearly the cause for rejection.

2.3 Form.-The information required will be entered on SMU Form 1057, Rocket Propellant Acceptance Sheet, in accordance with instructions in the following paragraphs, and sufficient copies will be reproduced to meet distribution needs. Paragraphs have been numbered to correspond with the numbers on the sample form.

SPACE 1. GRAIN.-Enter the official nomenclature of the grain.

SPACE 2. PROPELLANT LOT NUMBER.-Enter the lot number as shown on the description sheet.

SPACE 3. ROCKET.-Indicate the official nomenclature and description of the rocket or JATO unit for which this grain was manufactured.

SPACE 4. DATE.-Give the date of acceptance.

SPACE 5. MANUFACTURED BY.-Show the name of the manufacturer as stated in the contract or production order.

SPACE 6. AT.-Give the location of the manufacturer's plant or the name of the Government-owned works or arsenal where the lot was produced.

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SPACE 7. CONTRACT NUMBER.--Enter the contract number.

SPACE 8. ACCEPTED LOT WEIGHT.--Show the weight in pounds of the lot as accepted.

SPACE 9. PROOF FIRED AT.--Show the name of the proving ground(s) at which the acceptance tests were conducted.

SPACE 10. ROCKET.--Show the designation of rocket used in tests.

SPACE 11. ROCKET WEIGHT.--Show weight of test rocket.

SPACE 12. FIRING RECORD NUMBER.--Enter proving ground Firing Record number.

SPACE 13. COMPOSITION.--Enter the composition designation, such as M7 or N-5.

SPACE 14. SPECIFICATION.--Show the number of the specification to which the propellant was manufactured.

SPACE 15. DATED.--Enter the date of issue of the specification and/or applicable revision.

SPACE 16. BALLISTIC DATA.--Show a summary of the applicable ballistic performance data as required for acceptance.

SPACE 17. SIGNATURE.--The signature of the person signing the acceptance report and, thus accepting the material, will appear over his typed name.

SPACE 18. LOADING AUTHORIZATION.--List each type of rocket for which the propellant lot is authorized for loading, together with the weight of the rocket, the complete round drawing number, and the date of the applicable revision of such drawings. In case of rejection of a lot, no entry will be made for spaces 18, 19, or 20.

SPACE 19. DATE APPROVED.--Enter the date on which loading authorization was made.

SPACE 20. SIGNATURE.--The signature of the person signing the loading authorization will appear over his typed name.

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3. Distribution.-Distribution of the Rocket Propellant Acceptance Sheet will be in accordance with the following instructions:

	<u>Number of Copies</u>
U.S. Army Ammunition Procurement and Supply Agency	
SMUAP-REI Thru SMUAP-RO	1
SMUAP-AMS	1
U.S. Army Picatinny Arsenal	
SMUPA-ND	1
SMUPA-DE	1
SMUPA-VG	1
Inspection Office of Agency responsible for inspection	1
Inspection Office of Agency Administrating Contract (When different from above)	1
Destination of Propellant with Shipment	1
Mailed	1

3.2 Distribution of such acceptance sheets for rocket propellants will be expedited to insure their delivery prior to the arrival of the material.

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ROCKET PROPELLANT ACCEPTANCE SHEET		GRAIN 1	PROPELLANT LOT NUMBER 1 and/or GRAIN LOT NUMBER 2		
		ROCKET 3	DATE 4		
MFG. BY HERCULES INCORPORATED 5 AT 6 RADFORD ARMY AMMUNITION PLANT RADFORD, VIRGINIA CONTRACT NO. W-11-173-AMC-37(A) 7 ACCEPTED LOT WT. (LBS.) 8		PROOF FIRED AT 9 PROVING GROUND			
		ROCKET 10			
		ROCKET WEIGHT 11			
		FIRING RECORD NO. 12			
DESCRIPTION OF PROPELLANT					
COMPOSITION 13		SPECIFICATION 14			
BALLISTIC DATA 16					
TEMPERATURE °F	CHARGE	VELOCITY FT/SEC.	PRESSURE LBS/SQ. IN.	THRUST LBS.	10% BURN TIME SEC.
THIS LOT OF PROPELLANT IS ACCEPTED					
17					
CHIEF QUALITY ASSURANCE DIVISION					
LOADING AUTHORIZATION 18					
THE PROPELLANT DESCRIBED ABOVE MAY BE USED IN LOADING ANY OF THE ROCKETS OR JATO UNITS LISTED BELOW EXCEPT WHEN QUANTITIES ARE SPECIFICALLY ALLOTTED FOR SOME PARTICULAR PURPOSE. THIS AUTHORIZATION EXPIRES AT WHICH TIME A RE-EVALUATION IS REQUIRED.					
ROCKET	WEIGHT	DRAWING	DATE LAST REVISED		
DATE APPROVED 19					
16					

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ROCKET PROPELLANT DESCRIPTION SHEET

SMU FORM 1058

1. Purpose.-The Rocket Propellant Description Sheet, SMU Form 1058, is a record showing the identity of the lot, acceptable blend numbers of nitrocellulose, data concerning the manufacturing process and some process control test results, and the results of physical and chemical tests on the lot. It serves as a statement of inspection of the lot of bulk propellant used in the manufacture of JATOS, rocket propelling charges, grains and assemblies.

2. Preparation.-The responsibility for proper preparation of SMU Form 1058 rests with the inspector. However, since the contractor is required to supply much of the information necessary to complete the form, duplication of effort will be avoided if the information is supplied by the contractor on the form itself; but such action in no way relieves the inspector of his final responsibility for the report, to the correctness of which he must attest by signature.

2.1 A Rocket Propellant Description Sheet, SMU Form 1058, will be prepared for each lot of rocket-type propellant manufactured or reworked.

2.2 When a lot, previously accepted, is reworked, a supplemental Rocket Propellant Description Sheet will be prepared to indicate the added processing and results of any added acceptance tests.

2.3 Normally, results of tests will be reported to the number of decimal places required in the test procedure, but never to less than the number of decimal places shown in the specifications or other applicable requirements. The specification limits are to be considered absolute when judging the acceptability of the test item. Rounding of the numerical values of the test results will be permitted within the number of places shown in the specification.

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3. Form.--The information required will be entered on SMU Form 1058, Rocket Propellant Description Sheet, in accordance with instructions in the following paragraphs, and sufficient copies will be reproduced to meet distribution needs. Paragraphs have been numbered to correspond with the numbers on the sample form.

SPACE 1. LOT NUMBER.--Enter the Army lot number assigned by the contracting officer and the year of manufacture.

SPACE 2. MANUFACTURER'S LOT NUMBER.--Give the manufacturer's lot numbers, if used, and the year of manufacture.

SPACE 3. CONTRACT NUMBER.--Enter the applicable contract number.

SPACE 4. DATE.--Show the contract date.

SPACE 5. SPECIFICATION NUMBER.--Give the applicable specification number.

SPACE 6. REVISION.--Show the applicable revision date of the specification.

SPACE 7. DRAWING NUMBER.--Give the drawing number of the propellant grain.

SPACE 8. REVISION.--Show the applicable revision date of the propellant grain drawing.

SPACE 9. WEAPON.--Enter the name of the rocket or JATO for which the propellant is intended.

SPACE 10. DESCRIPTION OF PROPELLANT.--Show the descriptive name of the propellant, including the type number, composition, or formula designation, etc.

SPACE 11. MANUFACTURED AT.--Give the manufacturer's name and plant location as contained in the contract. In the case of a Government-owned works or arsenal, use the Government of the works or arsenal.

SPACE 12. PACKED WEIGHT.--Show the weight in pounds of the lot as packed.

SPACE 13. NITROCELLULOSE.--Show the acceptable blend numbers of nitrocellulose used in the lot. Indicate whether the lot is made from cotton linters or wood sulfite cellulose.

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SPACE 14. NITROGEN CONTENT
K.I. STARCH TEST
(65.5°C.)
STABILITY TEST
(135°C.)

List the maximum, minimum, and average results of these tests for the nitrocellulose used in the lot.

SPACE 15. SOLVENT METHOD OF MANUFACTURE.-List the weight of solvent per pound, the percent of ether, alcohol, or acetone used as solvent, and the temperatures and time (days, hours) required for drying. List the percent of remix and rework to whole.

SPACE 16. SOLVENTLESS MANUFACTURE.-Indicate slurry or paste method by crossing out the one that does not apply; show time and temperature of mixing; indicate extrusion ram rate and pressure; show die and basket temperatures; show time and temperature of annealing.

SPACE 17. REMARKS.-Enter here information on sources of raw material, changes in process, unusual occurrences during production, and any other information pertinent to the preceding spaces.

SPACE 18. CAST OR COMPOSITE MANUFACTURE.-Enter the information indicated, if applicable, under Constituents, Grinding Hours, Equipment, Particle Size, Test Equipment, and time and temperature of mixing. Show time, temperature and pressure (vacuum) of drying; show pressure, temperature and time of forming; show time and temperature of curing. Under REMARKS, show time of solvent evacuation and other pertinent information.

SPACE 19. COMPOSITION.-Enter the composition formula and composition as found by acceptance analysis.

SPACE 20. STABILITY AND PHYSICAL TESTS.-Show the results of stability tests and physical tests as applicable.

SPACE 21. MEASUREMENTS.-Give the results of dimensional measurements, as made in acceptance test.

SPACE 22. VISUAL INSPECTION.-Show the results of visual inspection as required.

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SPACE 23. DATE PACKED.-Give the date of packing.

SPACE 24. DATE OFFERED.-Show the date on which the inspector was requested to select samples.

SPACE 25. DATE SAMPLED.-Enter the date the samples were taken.

SPACE 26. DATE TEST FINISHED.-Show the date the acceptance tests were completed.

SPACE 27. DATE DESCRIPTION SHEETS FORWARDED.-Give the date description sheets are forwarded.

SPACE 28. TYPE OF PACKING BOX.-Enter the type of packing box used, including drawing number and applicable revision date.

SPACE 29.-"This lot (does) (does not) meet chemical and physical requirement." Indicate compliance or non-compliance by crossing out the inappropriate word or words.

SPACE 30. REMARKS.-Enter here such general information as deviations from drawings and specifications, if any, and consequent waivers granted. If applicable, give data showing why lot does not meet chemical and physical requirements.

SPACE 31. SUPERINTENDENT.-The representative signing for the contractor should be an official of sufficient authority to exercise control over the contractor's inspection and production groups. His signature should appear over his typed name.

SPACE 32. INSPECTOR OF ORDNANCE.-The signature of the Government Quality Assurance Representative or Chief Inspector of the plant, or a person designated to sign for them and chemical requirements are concerned. The signature will appear over the individual's typed name.

SPACE 33. U. S. CHEMIST.-When all or a part of the acceptance testing has been performed by a Government chemist, this space will be signed by the Government chemist responsible for the accuracy of laboratory acceptance test results, normally the Chief Chemist. This signature will appear over the typed name of the person signing.

MIL-STD-1171 (MU)
15 January 1971

4. Distribution.-The normal distribution of the Rocket Propellant Description Sheet, SMU Form 1058, will be as follows:

Number of Copies

U.S. Army Ammunition Procurement and Supply Agency

SMUAP-REI Thru SMUAP-RO	1
SMUAP-AMS	1

U.S. Army Picatinny Arsenal

SMUPA-ND	1
SMUPA-DE	1
SMUPA-VG	1

Inspection Office of Agency responsible for inspection	1
---	---

Inspection Office of Agency Administating Contract (When different from above)	1
--	---

Destination of Propellant	1
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Mail	1
------	---

Aberdeen Proving Ground, Maryland Director: AMSAA ATTN: AMXRD-ARW	1
---	---

4.1 Distribution of such description sheets for rocket propellants will be expedited to insure their delivery prior to the arrival of the material.

MIL-STD-1471 (MU)

15 January 1971

ROCKET PROPELLANT DESCRIPTION SHEET

DOA LOT NO. 1		MFR. LOT NO. 2	
CONTRACT NO. 3	DATE 4	SPECIFICATION NO. 5	REVISION 6
DRAWING NO. 7	REVISION 8	WEAPON 9	
DESCRIPTION OF PROPELLANT 10			
MANUFACTURED AT 11		PACKED WEIGHT 12	
NITROCELLULOSE 13			
GRADE		TYPE	
ACCEPTED BLEND NOS.			
NITROGEN CONTENT 14		K.I. STARCH TEST (65.5° C.) 14	
STABILITY TEST (135° C.) 14			
MAXIMUM %	MAXIMUM MINS.	MAXIMUM MINS.	
MINIMUM %	MINIMUM MINS.	MINIMUM MINS.	
AVERAGE %	AVERAGE MINS.	AVERAGE MINS.	
		EXPLOSION MINS.	
SOLVENT METHOD OF MANUFACTURE 15			
Total weight of solvent per pound non-volatile constituents. Consisting of _____ pounds alcohol and _____ pounds acetone/ether per 100 pounds solvent. Percentage of remix _____			
rework to whole _____			
TEMPS. °C.		TIMES	
FROM	TO	DAYS	HOURS
SOLVENTLESS MANUFACTURE 16			
		TIME & TEMPS.	
		HOUR	°F.
SLURRY OR PASTE METHOD			
MIXING			
EXTRUSION:			
RAM RATE in./sec.	RAM PRESSURE p.s.i.		
DIE TEMPERATURE			
BASKET TEMPERATURE			
TYPE ANNEALING			
REMARKS			
17			
CAST OR COMPOSITE MANUFACTURE 18			
CONSTITUENTS	GRINDING HOURS	EQUIPMENT	PARTICLE SIZE
DRYING HOURS		VACUUM	
FORMING PRESSURE		TIME	
CURING HOURS			
REMARKS			
22			

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15 January 1971

TEST OF FINISHED PROPELLANT							
COMPOSITION, percent 19				MEASUREMENTS 21			
CONSTITUENT	FORMULA	MFR.	INSPR.	OUTSIDE DIAMETER		FOUND	SPECIFIED
				MEAN			
				STANDARD DEVIATION			
				MEAN + STD. DEV.			
				NUMBER STICKS MEASURED			
				LENGTH			
				MEAN			
				NUMBER STICKS MEASURED			
				NO. STICKS EXCEEDING INCH			
				GRAIN DIMENSIONS			
				LENGTH			
				DIAMETER			
				DIA. OF PERFORATION			
				AVERAGE WEB			
TOTAL VOLATILES				SHEET DIMENSIONS			
				LENGTH			
				WIDTH			
STABILITY AND PHYSICAL TEST 20				THICKNESS			
°C. HEAT TEST 52		MFR.	INSPR.	RADIOGRAPHIC OR ULTRASONIC RESULTS			
FUMES				FOR FISSURES AND FOREIGN MATERIAL			
EXPLOSION				100% VISUAL INSPECTION 22		NO. INSP.	NO. DEFECT.
GRAIN FORM				STRAIGHTNESS			
DENSITY LB./IN. ³				FISSURES & PINHOLES EXCEEDING			
SALMON PINK				INCH IN DIAMETER			
WEIGHT		FOUND	SPECIFIED	BREAKS IN SURFACE			
STICK CHARGE (Gram)				REMARKS:			
MEAN							
STANDARD DEVIATION							
MEAN + STD. DEV.							
MEAN - STD. DEV.							
NUMBER CHARGES WEIGHED							
DATE PACKED 23		DATE OFFERED 24		DATE SAMPLED 25			
DATE TEST FINISHED 26		DATE DESCRIPTION SHEETS FORWARDED 27					
TYPE OF PACKING BOX							
28							
does							
This lot does not meet Chemical and Physical Requirements.							
(Exceptions if any noted under remarks)							
29							
REMARKS							
30							
Technical Dept. Army (93)							

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15 January 1971

DESCRIPTION SHEET
FOR EXPLOSIVES, CHEMICALS, ETC.

SMU FORM 1059

1. Purpose.-The Description Sheet, SMU Form 1059, is intended to serve as a record of tests made and results obtained in inspection to establish the acceptability of such chemical materials as bulk explosives or pyrotechnics and chemical raw materials.

2. Preparation.-The responsibility for proper preparation of SMU Form 1059 rests with the contractor. However, since the contractor is required to supply much of the information necessary to complete the form, duplication of effort will be avoided if this information is supplied by the contractor on the forms themselves in sufficient number for distribution, but such action in no way relieves the inspector of his final responsibility for the report, to the correctness of which he must attest by signature.

2.1 A Description Sheet, SMU Form 1059, may be prepared to cover more than one lot of bulk chemical materials presented for acceptance under procurement contracts.

2.2 A Description Sheet, SMU Form 1059, may cover more than one lot; however, results of tests for only those lots having serial numbers in sequence may be recorded on any one sheet. Results of inspection and tests for accepted lots and rejected lots will not be placed on the same sheet.

2.3 Description Sheets, when used to report results of inspection and rejection, will have the word "Accepted" or "Acceptance" obliterated and replaced with "Rejected" or "Rejection". Such sheets will show clearly the cause for rejection (i.e., by use of underscores, encircled results, or supplementary remarks).

2.4 Normally, results of tests will be reported to the number of decimal places required in the test procedure, but never to less than the number of decimal places shown in the specifications or other applicable requirements. The specification limits are to be considered absolute when judging the acceptability of the test item. Rounding of the numerical value of the test results will not be permitted within the number of places shown in the specification

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In rounding off the numerical values of test results, the last significant figure (the terminal decimal figure of the expressed requirement) will be increased by one when the discarded figure is five or greater.

2.5 If the status of any lot is changed subsequent to acceptance or rejection, a supplemental report will be made, utilizing SMU Form 1059, with a clear statement of the reason for the change in status.

2.6 Form.-The information will be entered on SMU Form 1059, Description and Acceptance Sheet, in accordance with instructions in the following paragraphs, which have been numbered to correspond with the numbers on the sample form.

SPACE 1. INSTALLATION.-Enter full name of installation (e.g., Radford Army Ammunition Plant) or activity conducting the inspection.

SPACE 2. MANUFACTURER.-Show full name of the manufacturer.

SPACE 3. CONTRACT.-Show full contract number or purchase order number.

SPACE 4. DATE.-Enter the date sheet was completed.

SPACE 5. MATERIAL.-Show name of material as set forth in the specification, together with type, class, grade, or other class designation.

SPACE 6. FROM NUMBER.-Enter the full lot number, including manufacturer's identification symbol and applicable interfix for the lot, or the first lot number if a series of lots is being reported.

SPACE 7. THRU NUMBER.-Show the full lot number of the last lot covered by the report. Leave space blank if only one lot is reported.

SPACE 8. TOTAL NUMBER OF LOTS.-Show the number of lots covered by the report.

SPACE 9. TOTAL NET AMOUNT ACCEPTED.-Show the total quantity, in pounds (or units stipulated in the contract), accepted by the report.

SPACE 10. PLACE MANUFACTURED.-Show the location or name of manufacturing plant or point where material is actually produced.

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SPACE 11. SPECIFICATION AND AMENDMENT: DRAWING NUMBER.-Record applicable specification number and amendment, and any drawing numbers, with their revisions.

SPACE 12.-This space is provided for reporting the results of tests. Lot numbers, lot quantities, and the results of tests for each requirement will be tabulated for all lots reported on the sheet. It is usually advantageous to list lot number, lot size, and each specification requirement as column headings, and tabulate data for each lot below the heading. In this manner, the results of as many as 20 to 25 lots may be reported, and the material accepted, on one sheet. Immediately below the column heading for the requirement (e.g., acidity, water insoluble matter, etc.), the limit or tolerance for the requirement will be shown.

SPACE 13. REMARKS.-Cite reference to any waivers, Engineering Orders, or similar authority, to accept material at variance with specifications. Include comments pertinent to the lot(s) or its inspection and acceptance.

SPACE 14. SAMPLING CONDUCTED BY.-The person conducting the sampling will sign in this space above his typed name and title. The title must indicate whether the sampling was performed by a Government inspector, or by some interested party, such as the contractor.

SPACE 15. TESTING CONDUCTED BY.-The person responsible for doing the testing will sign in this space over his typed name and title. The title must indicate whether testing was performed by a Government inspector, by a commercial testing laboratory, by another Government testing laboratory, or by some interested party, such as the contractor.

SPACE 16.-If any part of the inspection is conducted by the manufacturer, a certificate of the accuracy or validity of results obtained is required. The certificate should be explicit with respect to any limits of the certificate coverage. The certificate should be signed by the plant superintendent or an official designated by him. The signature should be in ink and over his typed name. The original only need be signed.

SPACE 17. DATE.-Enter the date of acceptance or rejection.

SPACE 18. TITLE.-Enter the official title of the person making the acceptance or rejection.

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15 January 1971

SPACE 19. SIGNATURE.-The signature of the person signing the report and thus accepting the material, will appear over his typed name on the original copy of the form.

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15 January 1971

3. Distribution.--Distribution of the Description Sheets, SMU Form 1059, will be in accordance with the following instructions:

	<u>Number of Copies</u>
U.S. Army Ammunition Procurement and Supply Agency	
SMUAP-REI Thru SMUAP-RO	1
SMUAP-AMS	1
U.S. Army Picatinny Arsenal	
SMUPA-ND	1
SMUPA-DE	1
SMUPA-VG	1
Inspection Office of Agency responsible for inspection	1
Inspection Office of Agency Administration Contract (When different from above)	1
Designation of Explosive	2
Aberdeen Proving Ground, Maryland Director, AMSAA ATTN: AMXRD-ARW	

3.1 In addition to the number of copies shown, other copies may be required for local usage. Such usage shall be kept to a minimum, and each copy will be subject to the approval of the Chief of the Inspection Activity.

3.2 Distribution of such Description Sheets for high explosives and chemical materials will be expedited to insure their delivery prior to the arrival of the material.

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Copies of this Standard and other referenced documents required by contractors in connection with specific procurement functions may be obtained from the procuring agency or as directed by the contracting officer.

Custodians:

Army-MU

Preparing Activity:

Army-MU

Project Number: 1376-A-088

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15 January 1971

TEST OF FINISHED PROPELLANT							
COMPOSITION, percent 19				MEASUREMENTS 21			
CONSTITUENT	FORMULA	MFR.	INSPR.	OUTSIDE DIAMETER		FOUND	SPECIFIED
				MEAN			
				STANDARD DEVIATION			
				MEAN + STD. DEV.			
				NUMBER STICKS MEASURED			
				LENGTH			
				MEAN			
				NUMBER STICKS MEASURED			
				NO. STICKS EXCEEDING INCH			
				GRAIN DIMENSIONS			
				LENGTH			
				DIAMETER			
				DIA. OF PERFORATION			
				AVERAGE WEB			
TOTAL VOLATILES				SHEET DIMENSIONS			
				LENGTH			
				WIDTH			
STABILITY AND PHYSICAL TEST 20				THICKNESS			
°C. HEAT TEST SP		MFR.	INSPR.	RADIOGRAPHIC OR ULTRASONIC RESULTS			
FUMES				FOR FISSURES AND FOREIGN MATERIAL			
EXPLOSION				100% VISUAL INSPECTION 22		NO. INSP.	NO. DEFECT.
GRAIN FORM				STRAIGHTNESS			
DENSITY LB./IN. ³				FISSURES & PINHOLES EXCEEDING			
SALMON PINK				INCH IN DIAMETER			
WEIGHT		FOUND	SPECIFIED	BREAKS IN SURFACE			
STICK CHARGE (Gram)				REMARKS:			
MEAN							
STANDARD DEVIATION							
MEAN + STD. DEV.							
MEAN - STD. DEV.							
NUMBER CHARGES WEIGHED							
DATE PACKED 23		DATE OFFERED 24		DATE SAMPLED 25			
DATE TEST FINISHED 26		DATE DESCRIPTION SHEETS FORWARDED 27					
TYPE OF PACKING BOX							
28							
does This lot does not meet Chemical and Physical Requirements. (Exceptions if any noted under remarks) 29							
REMARKS							
30							
Technical Dept.		Army					
31		INSPECTOR J. E. Bland		32		U. S. CHEMIST J. F. Bland 33	

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(Reverse Side)

FIGURE 4B

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.		
SPECIFICATION		
ORGANIZATION		CITY AND STATE
CONTRACT NO.	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT \$
MATERIAL PROCURED UNDER A		
<input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> 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 OCT 64 1426