This copy is a reprint which includes current pages from Change 1.

Change 1

DEPARTMENT OF THE ARMY SUPPLY BULLETIN

WAR GAS IDENTIFICATION SET, DETONATION, M1 AND AN-M1A1 WAR GAS IDENTIFICATION SET, INSTRUCTIONAL M1; SET, GAS, TOXIC, M1 AND M2

Headquarters, Department of the Army, Washington, DC 23 April 1976

SB 742-1365-94-14, 9 April 73, is changed as follows: Page 1, paragraph 3. Delete subparagraph b. Page 2, paragraph 4 is superseded as follows:

4. Safety-In-Storage. *a. Storage monitoring (for safety-in-storage*). Storage monitoring inspection shall be performed regardless of condition code, accountability, or owning service (Army, Air Force, Navy).

b. *Monitoring interval.*

(1) Standard containers (steel cylinders). Periodic monitoring inspection shall be performed annually.

(2) Nonstandard containers. (Containing either complete or partial sets). Periodic monitoring inspection shall be performed quarterly.

c. Basis for monitoring. Monitoring inspection shall be performed on a unit (100%) basis. (Each outer container, standard or nonstandard, shall be considered as a unit).

d. Letter of accomplishment. Letters indicating accomplishment of monitoring inspection shall be submitted to Commander, US Army Armament Command, Attn: AMSAR-QAS, Rock Island, IL 61201 with information copy to Commander, Edgewood Arsenal, Attn: SAREA-PA-PQ, Aberdeen Proving Ground, MD 21010.

Paragraph 5 is superseded as follows:

5. Inspection.a. Standard containers (steel cylinders). Each outer container shall be visually inspected (without opening) for visual defects as defined in SB 742-1 and for evidence of leakage. Liquid spots, discolorations, crinkled or blistered paint shall be considered evidence of leakage. Outer containers displaying evidence of leakage shall be subjected to the applicable test(s) contained in paragraph 6 of this bulletin. Confirmed leakers shall be reported in accordance with paragraph 7b and handled as specified in paragraph 8c of this bulletin.

b. Nonstandard containers (containing either complete or partial sets). Each outer container shall be visually inspected (without opening) for evidence of leakage as defined in paragraph 5a. In addition, each container shall be subjected to the applicable test(s) (depending on contents of the container) contained in paragraph 6 of this bulletin. Confirmed leakers shall be reported in accordance with paragraph 7b and handled as specified in paragraph & of this bulletin except that leaking nonstandard containers shall be wrapped in heavy gauge plastic and sealed with pressure sensitive tape until disposition instructions are received.

NOTE following paragraph 5 is deleted.

Paragraph 6a(3)(d). Change "221/2 liters per minute", to "2 to 21/2 liters per minute. "

Paragraph 6b(3)(c). Change "221/2 liters per minute," to "2 to 21/2 liters per minute. "

Paragraph 6c(3)(b)2. Change "221/2 liters per minute," to "2 to 21/2 liters per minute. "

Paragraph 6d(3Xc). Change "221/2 liters per minute", to "2 to 21/2 liters per minute. "

By Order of the Secretary of the Army:

FRED C. WEYAND
General, United States Army
Official: Chief of Staff

Official

PAUL T SMITH
Major General, United States Army
The Adjutant General

Distribution:
To be distributed in accordance with DA Form 12-34, (qty rqr block No. 52) Requirements for Storage Serviceability Standards SB 740 Series.

DEPARTMENT OF THE ARMY SUPPLY BULLETIN

WAR GAS IDENTIFICATION SET, DETONATION, M1 AND AN-M1A1 WAR GAS IDENTIFICATION SET, INSTRUCTIONAL, M1 SET, GAS, TOXIC, M1 AND M2

Headquarters, Department of the Army, Washington, D.C.
9 April 1973

1. Purpose and Scope.

a. *Purpose*. This supply bulletin when used in conjunction with SB 742-1, provides the method for determining the "Safety-In-Storage" for War Gas Identification Set, Detonation M1 and AN-M1A1; War Gas Identification Set, Instructional, M-1; and Set, Gas, Toxic, M1 and M2.

b. Scope. The provisions of this supply bulletin are mandatory for determining the "Safety-In-Storage" for War Gas Identification Set, Detonation, M1 and AN-M1A1; War Gas Identification Set, Instructional, M-1; and Set, Gas, Toxic, M1 and M2. NOTE Sets referred to in a and b above are obsolete.

NOTE

Sets referred to in a and b above are obsolete.

2. Applicable Documents. The following Government documents referenced herein form a part of this bulletin to the extent specified.

AR 380-5	Safeguarding Defense Information.
(0) AR 380-86	Classification of Chemical Warfare and Biological Research Data.
SB 742-1	Ammunition Surveillance Procedures.
SB 742-1300-94-1	Toxic Munitions and Bulk Storage, GB, VX, H, HT, HD: Surveillance and Leakage Test Procedures.
TM 3-215	Military Chemistry and Chemical Agent.
TM 3-220	Chemical, Biological and Radiological (CBR) Decontamination.
TM 3-250	Storage, Shipment, and Handling of Chemical Agents and Hazardous Chemicals.
TM 743-200	Storage and Materials Handling (Dept of Def).
TM 743-200-1	Storage and Materials Handling (Dept of Army).
TM 9-1300-206	Care, Handling, Preservation, and Destruction of Ammunition.

3. Safety Procedures. a. *General*. During testing and handling of chemical material, inspection personnel will observe the safety precautions pre-scribed in TM 3-215, TM 3-220, TM 3-250, TM743-200, TM 743-200-1, TM 9-1300-206, and approved standing operating procedures.

b. *Safety-In-Storage*. Inspection for "Safety-In-Storage" will be performed regardless of condition code, accountability or owning service (Army, Air Force, Navy). Visual examination will be performed as indicated in SB 742-1. The outer container of the sampled set/s will be inspected (without opening) for evidence of leakage. Letters indicating accomplishment of monitoring for Safety-In-Storage will be submitted to the Commander, Edgewood Arsenal, ATTN:

SMUEA-PA-P, Aberdeen Proving Ground, MD 21010 when these inspections are performed.

4. Safety-in-Storage. a. Monitoring Interval. Periodic monitoring for "Safety-In-Storage" shall be performed quarterly.

b. Basis for Monitoring. Monitoring for safety-in-storage will be conducted on the basis of a random sample selected from depot stocks as indicated in 4c.

c. Sampling. A randomly selected sample of 50 of each type and model of set/s will be visually inspected in accordance with SB 742-1 and tested for leakage/contamination in accordance with section 6 of these instructions. If the quantity of sets in stock is 50 or less the entire stock will be monitored. Samples should be selected so that lots are represented on a ratio basis.

5. Inspection.a. Visual Examination. The items will be examined for visual defects in accordance with SB 742-1.

b. Leakage Examination. The items will be examined for evidence of discoloration, crinkled or blistered painted surface and shall be considered leakers until determined otherwise in accordance with section 6 of these instructions. Suspect leakers, verified by test, shall be reported in accordance with paragraph 7b and handled as specified in paragraph 8c.

NOTE

All samples will be tested for leakage/contamination in accordance with section 6 regardless of the results of the visual examination.

6. Tests. a. Vapor Test for Agent H and HD using Blue Band Detector Tubes.

(1) Requirement. Color of detector tube should remain unchanged if agent is not present. A purple-blue color indicates the presence of HD or H.

(2) Equipment and materials required.

(a) Detector tube assembly, Type 1, blue band, FSN 6665-856-8236.

(b) Sodium hydroxide, technical, FSN 6810-270-8177.

(c) Air sampling device APE 2053 FSN 4925-914-4111 and/or 2053M1.

(d) Aspirator bulb FSN 6640-630-7965.

(3) *Procedure for Preparation of Solution and Testing.*

(a) Prepare a 8. 5%n solution of sodium hydroxide by dissolving 0. 68 grams of sodium hydroxide in 8 milliliters of distilled water. If a large quantity of sodium hydroxide solution is desired, dissolve 8. 5 grams of sodium hydroxide in 100 milliliters of distilled water. The solution may be stored in bottles.

NOTE

Solution in the blue bottle of the M18A2 detector kit may be used in lieu of the above.

(b) Break off the glass tips of a blue band detector tube on both ends at the score marks.

(c) Insert the unbanded end of the detector tube firmly into the tubing which leads to the air sampling device or aspirator bulb.

(d) Obtain an air sample from around any areas suspected of leaking, around sealed flange and welded areas, by using the detector tube and operating the APE 2053 and/or 2053M1 for one minute with the flowmeter adjusted to 221/2 liters per minute or by applying 60 compressions to the aspirator bulb.

(e) Remove the detector tube and after two minutes add one or two drops of sodium hydroxide solution (Prepared in step 6a(3) (a)) to the banded end.

(f) Place the detector tube against a white background and observe the resulting color.

(g) The color in the detector tube should remain unchanged. A purple-blue color indicates the presence of agent.

(h) If a positive test for agent is obtained, a second test should be conducted with a fresh detector tube. If it is positive also, the presence of agent is indicated. If the second test is negative, a third test using a fresh tube should be conducted. A positive third test would indicate the presence of agent. A negative third test would indicate the absence of the agent.

b. Vapor Test for Lewisite (L).

(1) Requirement. The color of the detector tube should remain unchanged if agent is not present. A blue-green ring indicates the presence of Lewisite (L).

(2) Equipment and material.

(a) Yellow band detector tube from Detector Kit, Chemical Agent, ABC-N18A2, FSN 6665-903-4767.

(b) Air Sampling Device APE 2053 FSN 4925-914-4111 and/or 2053M1.

(c) Aspirator Bulb FSN 6640-630-7965.

(3) Procedure.

(a) Break off glass tips of a yellow band detector tube, on both ends, at the score marks.

(b) Insert the unbanded end of the detector tube firmly into the tubing which leads to the air sampling device or aspirator bulb.

(c) Obtain an air sample from around discolored, crinkled or blistered or rusted painted surfaces, and/or welded areas and/or any other suspect areas by operating the APE 2053 and/or 2053M1 for one minute with the flowmeter adjusted to 22 ½ liters of air

per minute or by applying 60 compressions to the aspirator bulb.

(d) Remove the detector tube and add one (1) drop of solution from the blue marked bottle in the detector kit.

(e) A blue-green to blue ring indicates the presence of Lewisite (L).

c. Vapor Test for CG.

(1) Requirements. The containers shall show no evidence of leakage when tested as indicated in 6c(3) below.

(*2) Equipment required*

(a) Ammonia and rags.

(b) Detector tube, Green Band, FSN 6665702-7136.

(c) Air sampling device, APE 2053, FSN 4925-914-4111 and/or 2053M1.

(d) Aspirator Bulb, FSN 6640-630-7965.

(3) Procedure.

(a) Check any suspect or possible areas of leakage using an ammonia soaked rag. A white smoke will indicate the presence of CG.

(b) If CG is detected using the ammonia test, a confirmation test should be performed using the green band detector tube as follows:

1. Break the ends from a green band detector tube at score marks and insert the unbanded end of the tube firmly into the tubing which leads to the air sampling device, APE 2053 and/or 2053M1, or aspirator bulb.

2. Obtain an air sample from around discolored, crinkled, blistered or rusted painted surfaces and/or welded areas and/or any other suspect areas by operating the APE 2053 and/or 2053M1 for one minute with the flowmeter adjusted to 221/2 liters per minute or by applying 60 compressions to the aspirator bulb.

(c) If a green ring appears (a positive test), CG is present.

NOTE

If green band tubes are not available ammonia rag test will be taken as evidence of leakage. The M9 and M17 series masks will not filter ammonia fumes. The odor of ammonia if detected through the mask should not be cause for suspecting the failure of the filter elements.

d. Vapor Test for CK.

(1) Requirements. The color of the detector tube should remain unchanged if the agent is not present. A yellow to orange ring indicates the presence of CK.

(2) Equipment and Materials.

(a) Detector tube assembly, Type I, blue band, FSN 6665-856-8236.

(b) Air sampling device APE 2053 FSN 4925-914-4111 and/or APE 2053M1.

(c) Aspirator bulb, FSN 6640-630-7965.

(3) Procedure.

(a) Break off glass tips of a blue band detector tube on both ends at the score marks.

(b) Insert the unbanded end of the detector tube firmly into the tubing which leads to the air sampling device or aspirator bulb.

(c) Obtain an air sample from around any areas suspected of leaking around sealed flange and welded areas by using the detector tube and operating the APE 2053 and/or 2053M1 for one minute with the flowmeter adjusted to 221/2 liters per minute or by applying 60 compressions to the aspirator bulb.

(d) The color of the detector tube should remain unchanged. A yellow to orange ring indicates the presence of CK.

e. Liquid Test Fore H, HD and L.

(1) Requirement. The color of the detector paper should remain unchanged if the agent is not present. A color change to red indicates the presence of H, HD, and L.

(2) Equipment required. ABC-M8 VGH Chemical Agent Detector paper (booklet), FSN 6665-050-8529.

(3) Procedure. Detach a sheet of M8 paper from the booklet and blot (do not rub) any liquid spots or suspect areas. Observe for color change.

NOTE

Both the ABC-M8 paper and M7A1 crayon can be used for detection of liquid vesicants H, HD and L. The ABC-M8 paper is the preferred detector.

f. Liquid Test for H, HD and L.

(1) Requirement. The color of the M7A1 crayon particles shall remain unchanged if the agent is not present. A color change of the crayon particles, to blue, indicates the presence of H, HD or L.

(2) Equipment required.

(a) Crayon, Vesicant Detector, M7A1, FSN 6665-112-9405.

(b) Porous paper, preferably filter paper.

(3) Procedure. Rub the crayon on a piece of porous paper (filter paper) or crush a portion of the crayon to a powder. Blot the suspect leakage or contaminated areas with the paper or sprinkle on the crushed crayon. A color change to blue indicates the presence of H, HD or L.

7. Documentation. a. For recommended changes to this publication, the following form will be used:

DA Form 2028 (Recommended Changes to Publications).

b. Leaker /contamination reports will be submitted as Flask Leaker Reports in accordance with SB 742-1300-94-1.

8. Special Instructions. a. Errors or Omissions. Comments regarding errors or omissions will be forwarded on DA Form 2028 to Commander, Edgewood Arsenal, ATTN: SMUEA-PA-PQ, Aberdeen Proving Ground, MD 21010.

b. Security Classification. Reports prepared in accordance with this bulletin may contain classified information in accordance with AR 380-86, and AR 380-5. Compilation of reports may require a higher degree of classification.

c. Leaking Container Examination. If a leaking container is detected, the containers physically adjacent to the leaker will be examined for leakage and contamination. If a leaking container is detected, the leakage shall be contained by resealing the container (tightening the flange or replacing the gasket) and retesting for leakage. All containers that exhibited leakage shall then be placed in isolation to await disposal.

d. Disposition of Contaminated Test Materials. APE 2053, FSN 4925-914-4111 and/or 2053M1, By Order of the Secretary of the Army: air sampling device. All materials and equipment used in surveillance will be checked for contamination prior to removal from area ill which leakers are found. If check is positive, the items will be decontaminated using approved procedures. Materials for disposal, after chemical decontamination, or incineration will be sent to landfill.

e. Equipment Calibration. Prior to an inspection operation or test all measuring devices that require calibration will be inspected to verify that the calibration interval and equipment limits have not been exceeded (See SB 742-1).

f. Technical Assistance. Edgewood Arsenal will provide technical assistance at the request of the depot in the event an emergency hazardous situation, an abnormal condition, questionable test results are obtained, or a problem beyond the local capability is encountered during storage or surveillance. The technical assistance will be rendered promptly but within normal depot working hours unless an emergency is indicated. The point of contact will be Commander, Edgewood Arsenal, ATTN: SMUEA-SA, (Autovon 584-4413) Aberdeen Proving Ground, MD 21010.

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:

VERNE L. BOWERS
Major General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-34, (qty rqr block no. 52) Requirements for Storage Serviceability Standards SB 740-series.

* U.S. GOVERNMENT PRINTING OFFICE : 1993 0 - 342-421 (62910)

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