R-13850-E.1

R-13850-E.1

Copy No. 46

UNCLASSIFIED

INTELLIGENCE REPORT

ON

JAPANESE CHEMICAL WARFARE

Instructors Reading this Document
Volume V
Sign Below (File No. _____)
Part A
Name _____ Date _____

JAPANESE CHEMICAL WARFARE

EQUIPMENT AND MATERIEL

Office of the Chief Chemical Officer
GHQ, AFPAC
APO 500
TOKYO, JAPAN

15 May 1946

G-2 LIBRARY COPY

UNCLASSIFIED

30 SEP 1946

INTELLIGENCE REPORT

ON

JAPANESE CHEMICAL WARFARE

Volume V

Part A

JAPANESE CHEMICAL WARFARE

EQUIPMENT AND MATERIEL

15 May 1946

OFFICE OF THE CHIEF CHEMICAL OFFICER

GENERAL HEADQUARTERS, ARMY FORCES, PACIFIC

TOKYO, JAPAN

TABLE OF CONTENTS - VOL. V - PARTS A TO H

PART A

	PAGE
ABSTRACT	
I. INTRODUCTION	1
A.) Purpose	1
B.) Scope	1
C.) References	1
II. PROTECTIVE EQUIPMENT	3
A.) Gas Masks and Related Equipment	4
1.) Gas Masks, Canisters and Accessories	5
a. Army Gas Masks	5
b. Navy Gas Masks	51
c. Civilian Gas Masks	60
d. Animal Gas Masks	90
e. Canisters for Gas Masks	100
f. Accessories	106

PART B

2.) Gas Mask and Canister Testing Equipment	1
3.) Miscellaneous	15
B.) Chemical Agent Detector Equipment	26
C.) Collective Protector Equipment	42
D.) Decontaminating Equipment	65

PART C

E.) Gas Casualty Kits	1
F.) Impregnites	22
G.) Protective Clothing and Covers	28
H.) Training Aids	47
I.) Gas Warning Equipment	77

PART D

III WEAPONS AND MUNITIONS	1
A.) Grenades	1
B.) Bombs	10

PART E

C.) Projectiles and Shells	1
1.) Gun-Howitzer	1

PART F

2.) Mortar Projectiles	1
3.) Rocket Projectiles	32
D.) Fuzes and Gaines	64

PART G

E.) Pyrotechnics and Chemical Ordnance	1
1.) Candles, Containers, Sticks	1
2.) Flares	29
3.) Incendiary Items	57

PART H

F.) Flamethrowing Equipment	1
G.) Vesicant Handling Equipment	16
IV MISCELLANEOUS	52

PAGE

APPENDIX

Equipment and Materiel shipped to the USA from Japan and Korea. 1

1.) List of Equipment Shipped from Japan ii
2.) List of Equipment Shipped from Korea xiii
3.) List of Equipment Shipped to Wright Field, U.S.A. xv

TABLE OF CONTENTS - PART A

ABSTRACT

	PAGE
I. INTRODUCTION	1
A) Purpose	1
B) Scope	1
C) References	1
II. PROTECTIVE EQUIPMENT	3
A) Gas Mask and Related Equipment	4
1) Gas Masks, Canisters, and Accessories	5
a. Army Gas Masks	5
544 -Mask, Gas, Army, Type 87, Old	6
544A-Mask, Gas, Army, Type 87, Old, Early Model	8
544B-Cutaway View of Mask, Gas, Army, Type 87 (544)	10
400 -Mask, Gas, Army, Type 89 (about)	11
200 -Mask, Gas, Army, Type 91	12
200A-Cutaway View of Mask, Gas, Army, Type 91 (200)	14
99A -Mask, Gas, Army, Type 95, W/Hood	15
99B- Cutaway View of Mask, Gas, Army, Type 95 (JCW)	17
100A-Mask, Gas, Army, Type 99, W/Hood	18
100B-Mask, Gas, Army, Type 99, W/Hood	18
100C-Cutaway View of Mask, Gas, Army, Type 99 (JCW)	19
101A-Mask, Gas, Army, Assault	20
101D-Mask, Gas, Army Assault	20
101B-Cutaway View of Mask, Gas, Army Assault (101)	22
102A-Cutaway View of Mask, Gas, CO, General Service (JCW)	23
103A-Mask, Gas, Headwound, Modified	24
103B-Mask, Gas, Head Wound, Modified	25
547 -Mask, Gas, Army, W/Rubber Reinforced Facepiece	26
550 -Mask, Gas, Army, Diaphragm	28
551 -Mask, Gas, Army, Diaphragm, For High Ranking Officer	30
552 -Mask, Gas, Army, W/Oval Type Canister	31
553 -Mask, Gas, Army, W/Round Type Canister	32
685 -Dual Purpose Gas Mask	34
675 -Mask, Gas, Unknown W/Air Cooler on hose	36
383 -Mask, Gas, Aviator	37
384 -Mask, Gas, Aviator (new)	39
384A-Cutaway View of Mask, Gas, Aviator (new), (384)	41
414 -Mask, Oxygen, Aviator	42
684 -Mask, Oxygen, Special	44
679 -Mask, Gas, Officers	46
681 -Mask, Gas, Pilot's	48
672 -Mask, Gas, Unknown Nationality	49
673 -Mask, Gas, Unknown Nationality	50
b. Navy Gas Masks	51
106A-Mask, Gas, Navy, Type 93, No. 4	52
510 -Mask, Gas, Navy Experimental, Type 3 Chlorine	54

TABLE OF CONTENTS - PART A (CONT)

	PAGE
401 -Mask, Gas, Aviator Navy	56
596 -Mask, Oxygen, Naval	58
c. Civilian Gas Masks	60
107A-Mask, Gas, Civilian, Type 1A	61
107B-Mask, Gas, Civilian-	63
108A-Mask, Gas, Civilian, Type 2A, Modified A	65
108B-Mask, Gas, Civilian, Type 2A, Modified B	67
108C-Mask, Gas, Civilian, Type 2A, Modified C	69
108D-Mask, Gas, Civilian, Type 2A, Modified D	71
108F-Cutaway view of Mask, Gas, Civilian, Type 2A	72
580A-Cutaway view of Mask, Gas, Civilian, 12th Yr.	73
671 -Mask, Hourshold, Type 2A	74
671A-Mask, Household, Type 2A	74
109 -Mask, Gas, Air Defense, Type 16th Year, Model A (Childrens)	76
307 -Mask, Gas, Air Defense, Type 17th Year, Model B	78
307A-Mask, Gas, Air Defense, Type 17th Year Model A	81
347A-Mask, Gas, Civilian, Wide Vision Type	83
674 -Mask, Gas, Civilian, W/Hood	85
387 -Respirator, Civilian, Dust	86
680 -Respirator, Dust	87
Respirator, Dust, No. 2	88
d. Animal Gas Masks	90
521 -Mask, Gas, Camel	91
520 -Mask, Gas, Cow	93
377 -Mask, Gas, Dog and Shoe Leggings	94
Mask, Gas, Horse	96
379 -Mask, Gas, Horse (New)	98
e. Canisters	100
Miscellaneous Canisters	101
Additional Miscellaneous Canisters	104
f. Accessories	106
602 -Attachment, Type 100 Waterproofing Clamp and Hose	107
381 -Attachment, Experimental Waterproofing Clamp and Hose	109
381A-Attachment, Experimental Waterproofing Clamp and Hose	111
381B-Attachment, Experimental Waterproofing Clamp and Hose	111
381C-Attachment, Experimental Waterproofing Clamp and Hose	111
418 -Tube, Oxygen Generator	113
543 -Absorbent For Canister	116

ABSTRACT

This volume contains reports on the variety of Japanese CW items found in Japan and Korea by the CW intelligence teams which were assigned the mission of collecting such materiel. The reports are generally non-technical in that performance data are incomplete and other data necessary for true evaluation of effectiveness are lacking. Further work will have to be done on much of the materiel in order to obtain technical performance information. The mass of reports will best serve as a means for identifying specific items of Japanese CW equipment and as a basis for deciding whether or not further work on a particular item is warranted.

For whomever desires to know where and how many of the items reported in this volume are available in the U.S. this information is supplied in the lists of equipment shipped, included in the appendix in part H of the Volume.

There were some broad conclusions obvious to the authors of this volume as to the general state of preparedness of the Japanese in the CW field and the overall effectiveness of their equipment. These are listed below:

1.) Before 1940 the Japanese were relatively better prepared in the CW field than following the commencement of the war and later. Markings showing dates of manufacture and type indicate that production of CW equipment especially the offensive type, fell off following 1943 and only few changes of model and few new developments occurred after 1941 (type 1).

2.) The Japanese had done considerable development work in the CW field, put into production a great variety of items of equipments, however had very little equipment that was outstanding.

3.) Army, Navy, and civilian developments were made separately and were only loosely coorelated.

4.) Toward the end of the war the Japanese were concentrating on defensive equipment.

5.) Some development work was being attempted in the weapons and munition field on rockets and mortar projectiles for defensive use. As gas warfare never came about, these were not used for CW purposes, and it is not known how these perform. Studies in the ordnance field will have to be made in order to evaluate these items.

6.) The Japanese were forced to lower the quality of much of their CW equipment because of shortages of some raw materials, especially in the metal and petroluem categories in order to better supply services which were more actively engaged. It would appear to be fairly evident that the Japanese became more vulnerable to gas warfare as the war continued.

I. INTRODUCTION

This volume is number V of the series of publications making up the "Intelligence Report On Japanese Chemical Warfare" prepared under the direction of the Office of the Chief Chemical Officer, GHQ, AFPAC, APO 500. The volume consists of eight separately bound parts, designated as Parts A,B,C,D,E,F,G and H. This number of parts was necessary in order to include all the material reported upon.

A.) Purpose

This volume is composed of reports on items in the Japanese Chemical Warfare and allied fields. The reports were prepared to supplement the information already contained in the looseleaf notebook, "Japanese Chemical Warfare," published by the Office of the Chief Chemical Officer, Hq. USAFOE, APO 501 and have been prepared in a form similar to that used in that notebook.

Most of the material and equipment reported upon came directly from Japanese Army and Navy posts, bases, supply depots, arsenals and laboratories. These were primarily targets of opportunity for the field intelligence teams rather than targets from the War Department Target Lists.

A few of the items are not within strict confines of the CW field, however have been included because of a relationship to the CW field and also as evidences of items found at those locations where CWS development was being done.

The reports should serve as a means for identifying Japanese CW equipment and in conjunction with the aforementioned "Japanese Chemical Warfare" notebook presents a rather complete summary of the state of preparedness by the Japanese at the end of World War II in the field of Chemical Warfare.

The individual reports occur with an identifying number which permits the identification of the materiel included in the CW shipment to the U.S.A. from Japan. The same number as appears on a report is marked on the individual item or container in the shipment. It was believed that this system would serve to most rapidly supply the field and partial examination information to the installations in the U.S. making thorough investigations.

The few reports not numbered concern items of equipment which were found by the intelligence teams in Korea and compose a separate shipment to the U.S. The three unnumbered reports on airplane spray tanks found and reported upon by the Air Technical Intelligence in Japan are exceptions to this method of designation.

B.) Scope

The description of the major part of the materiel covered is general, covering external, physical characteristics. The large number of items made completion of performance tests and analysis impossible, however such information has been supplied in those cases which could be covered by the limited facilities of a field laboratory.

The use of photographs for illustration has been stressed throughout the reports as these best fulfill the purposes outlined above.

Translations are complete wherever the content of the translation was rated as of substantial intelligence value.

C.) References

All photographing, report writing and assembling of these reports was done by the Laboratory Section, 10th Chemical Service Company.

Below are some of the publications which were utilized in naming and describing some of the items in this volume. In some cases the items are described thoroughly in another publication. In such cases mention is made of the fact in the write-up of that item.

a.) C.M.T.R.'s, 42nd Laboratory Company
b.) C.M.T.R.'s, 43rd Laboratory Company
c.) C.M.T.R.'s, Lab. Section, 98th Chemical Service Company
d.) C.M.T.R.'s, " " , 99th " " "
e.) CWS Technical Notes for Laboratories No. 1 to 14
f.) Edgewood Arsenal C.M.T.R.'s
g.) "Handbook of Japanese Explosive Ordnance", CPNAV 30-3M, dtd 15 Aug 45
h.) "Japanese Bombs and Fuzes," USNBD, dtd July 1944
i.) "Japanese Projectiles and Fuzes," MIU #4, 19 Jan 1945
j.) "Hand, Rifle and Mortar Grenades," USNBD, 15 May 1944
k.) "Handbook on Japanese Military Forces," TM-E 30-480 1 Oct. 1944
l.) "Identification of Japanese Shells and Shell Fragments; Location of Enemy Batteries" TM-E9-1901

A few Japanese documents related to certain of the items in thi volume were recovered. These were partially translated in order to determine the importance of the contained information. These documents, listed below, with partial translations, are being sent directly to the President, Chemical Warfare Board, Edgewood Arsenal, Md., Attention: Captured Materiel Officer: Manuals are numbered as indicated.

Service Publications	No.
Manual of Gas Protection	1
Manual of Gas Protection, Appendix to (Separate volume)	2
Manual of Type 91 Gas Mask A	3
Manual of Gas Mask "A" Air Tube	4
Manual of Aviator Gas Protection	5
Civilian Publications	
Type 17th Year Air Defense Gas Mask	6
Explanation of Anti-Gas Hygienic Materials	7
How to Keep Gas Protective Clothing	8
How to Use and How to Keep Gas Protective Clothing	9
Poison Gas Bomb, Incendiary	10
Pulmotor	11
How to Use a Pulmotor	12
German Publications	
Gas Kampfstaffe and Virgiftungen - Prandtl (Gas Warfare and Gas Poisoning)	13
Schwebstaffe in Gasen, - Aerosole - Winkel & Jander (Suspended Particles in Gases - Aerosols)	14

II. PROTECTIVE EQUIPMENT

There are no evidences of unusual developments on equipment used for passive defensive operations. That attention was given to the training of military personnel to be familiar with the common CW Agents and proper care of equipment for the sake of gaining the resulting added protection is evident from the liberal use of training aids.

Protection for the civilian population in the event of gas warfare was also considered. Apparently the responsibility for the development was charged to a separate department called the "Home Defense Ministry." Most CW equipment for civilian use carried a seal or stamp of this department. This equipment for civilian use was in most cases considerably inferior to that for military use. In the most recently made equipment this fact was especially true.

In a comparison with U.S. protective equipment there is a noticeable lack of developments which compare to the U.S. protective ointments and impregnated clothing chemicals.

The Japanese used rubber resources liberally, were stringent in their use of metal parts.

There is a considerable inconsistency in the quality of equipment in this field. Some items of relative unimportance are elaborately well made, others which might well have been very important had gas warfare commenced were too poor in quality to be useful.

A lack of coordination of effort between army, Navy and civilian departments is apparent. This situation interferred with the attaining of maximum preparedness in CW protection.

A general evaluation of all of the equipment, made in view of its limitation considering the lack of performance data in the case of most items, is that the Japanese had fair protective equipment.

[redacted]

A.) GAS MASKS AND RELATED EQUIPMENT

There are a few general conclusions which can be made on the basis of the materiel covered in this section of protective equipment. These are:

1.) The Japanese failed to gain the advantage of coordination in development work by having independent work done by the Army and Navy. The necessity of having to produce different parts for the two services reduced the chances of taking advantage of mass production methods. Some of the best features of the Army developments are lacking in the Navy developments and vice versa.

2.) The Japanese seemed to be conscious of a need for gas protection for its civilian population, probably as a result of a realization of vulnerability to gas attack particularly from the air.

3.) Most Japanese gas masks are considerably lighter in weight than is comparable U.S. equipment. This is especially true of Army masks.

4.) Many modifications not signified in the equipment nomenclature were apparent. This situation probably occurred as a result of the procurement methods utilized. Numerous small concerns probably completed small orders. Such a system would likely yield non-standard output.

5.) Japan had an adequate rubber supply, used it to good advantage in gas masks and accessories.

It was not within the scope of these reports to obtain gas mask performance data. Tests will have to be made on canisters to determine protection characteristics.

[redacted]

1.) GAS MASKS, CANISTERS, AND ACCESSORIES

a.) Army Gas Masks

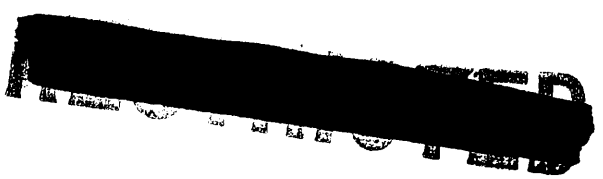
The Japanese Army Masks are well made and as a rule are of high grade materials. Considerable research seems to have been done especially between 1939 and 1943. Several of the masks reported were in expermental stages as of 1943. The nomenclature of most army masks was derived from the last two digits of the year in which the masks were designed according to the old Japanese calender; this is particularly true of models which had been accepted for general service. Example: Type 93 is year 1933.

Although most of the masks were of the hose type, a few snout type masks were in use. Employment of this type may have been due to a shortage of critical materials or possibly may have been in an effort to produce a more compact service mask.

Some features have been found in the masks which add to their practicability. An example of this is the screw in type eyepieces, by means of which either the common eyelens or special purpose eyelens, such as optical or right training lenses may be used.

No performance tests were made on the canisters. Documentary evidence indicate that the Japanese were striving for added protection in their canisters.

Army masks seem to have been made in only one facepiece size.



#544-MASK, GAS, ARMY, TYPE 87, OLD

General: Three samples of this mask were studied. There were slight variations among these three. They will be referred to as A,B,and C in this report.

		A	B	C
Color:	Facepiece-	tan	dirty brown	light tan
	Canister	brown	olive drab	brown
	Carrier	tan	none	none
Markings:				
	Facepiece-	embroidered character on left cheek, inside.	none	none
	Canister-	blue and white stamped figures and characters on side.	none	none
Components:		Facepiece, hose, canister, headharness, carrier.		
Weight:		3.75 lbs. (carrier 11 ozs.)	2.4 lbs. (canister empty)	3.0 lbs.

Description: The facepieces of all the masks are made of stockinette covered rubber about 1/16 of an inch thick, cut to conform with the contour of the face. The edges of samples A and B are reinforced with stockinette strips attached with cement.

The eyepieces are of laminated glass 2-1/8" in diameter held by metal frames 2½" outside diameter which screw onto threaded collars crimped to the facepiece. They are made airtight by a rubber gasket which fits around the lens. An additional rubber gasket fits tight under the metal frame on the outside of the eyepiece.

The angle tube is an inverted Y shape. The hose is connected to the front duct . Air is taken into the mask through the Y shaped tissot tube. The rear duct frames the outlet valve housing in which is seated a four tipped rubber valve protected by a semi-oval screen on metal guard.

In samples A and B the headharness consists of a leath pad carrying six elastic straps. The straps can be adjusted by buckles.

In samples A and B the hoses are ten inch length corrugated crepe rubber tubing wired to the angle tube and connect to the canister by a special coopling containing a thin glass valve which operates on the principal of vacuum and gravity.

The metal canister is 5⅛" wide by 2-3/4" thick by 6½" long. The top, bottom and third joint 2¼" from bottom in the middle are soldered.

Sample C has a fifteen inch hose of stockinette covered rubber wired to both the angle tube and the canister.

The canister is 5" by 3¼" thick by 6½" long. The bottom is hinged and contains a valve which can be opened or closed by sliding.

[redacted]

Translation:

Sample A:

Facepiece: left cheek inside "Large".
"Chemical Industries 11 month 9th Year Showa.
(November 1934)
On canister:
"6832 Small"



[redacted]

544A-MASK, GAS, ARMY, TYPE 87, OLD, EARLY MODEL

General: This mask is the same as the type 87, Items Number 544, with the exception of the outlet valve and a different type canister hose connection.

Description: The outlet valve is a six sided oblong flutter type valve 3" x 1½" with alternate sides split. One of these slips over the angle tube and is secured there with thread. The other two slits allow air to pass out. A 3/8" metal guard bolted to a crosepiece on the angle tube protects the valve.

The canister with this mask is of ridged metal 5-3/8" wide x 2-5/8" thick x 6-3/8" high. A threaded coupling connects the hose and canister. A threaded metal plug is provided for sealing the 1½" inlet port when canister is not in use.

Translations: Facepiece inside left:
"Chemical Industries" (Nippon Cml.Co.)
"8th month, 7th Year of Showa" (August 1932)
"Large"
Canister Label:
Type A No. 1
Utility Model No. 94261
Absorbent Canister
Methods of use.
(methods given)
Nippon Cml. Ind. Co., Ltd.

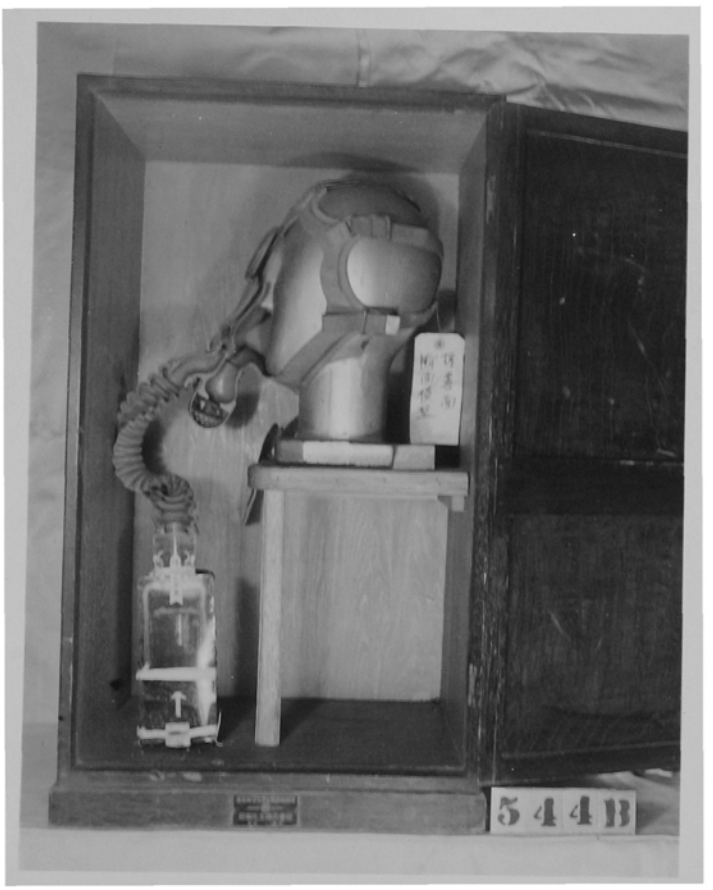
Remarks: The edge of facepiece is reinforced as are the A and B samples of 544 (Army Gas Mask, Type 87, Old). The relatively small eyepieces mounted rather far out from the face of the wearer would impair efficiency of vision.

[redacted]



544A-Mask,Gas,Army,Type 87,Old,Early Model

[redacted]



544B-CUTAWAY SECTION OF MASK, GAS, ARMY, TYPE 8[illegible]
SSME AS DESCRIBED IN 544.

400-MASK, GAS, ARMY, TYPE 89 (about)

General:

Color: Tan facepiece, blue canister.
Components: Facepiece, angle tube, hose, canister, head-harness.
Weight: 3 lbs. 1 oz.

Description: This mask has properties of both the type 87 (544) and the type 91 (200) Army Gas Masks.

The cut of the face piece resembles the type 87 mask (544-sample C). The tissot tube is also of the type used in Type 87.

The material used in the facepiece, the eyepieces, hose and headharness are the same as used in the type 91, mask (200). The construction and function of the angle tube, outlet valve, canister and hose canister connection are identical to those in the type 91 mask.

Remarks: This mask represents a mid-point of the development of the type 91 mask from the older type 87.



200-MASK, GAS, ARMY, TYPE 91

General:

Color:	Tan facepiece, yellow-brown canister.
Markings:	Embossed Japanese characters and arabic numerals, left cheek, inside facepiece, and on sides of canister.
Components:	Facepiece, angle tube, hose, canister, head harness.
Weight:	3 lbs. 2 oz.

Description: The facepiece is of stockinette covered heavy rubber, about 3/32 inches thick, molded and cut to fit the contour of the face. The eyepieces are set in 2½ inch metal frames. Both 2½ inch regular lenses and 1¼ inch optical lenses with rubber mounting were found with this type mask.

The inlet-outlet system consists of a Y-shaped tissot tube and a rubber disk valve seated in a housing extending from the rear of the angle tube and protected by a screw-on perforated metal cap.

The head harness consists of a stockinette covered rubber pad carrying six elastic webbing straps. The upper four have sliding buckles for adjusting while the lower two are equipped with quick-release buckles.

The 12 inch long hoses are of brown crepe rubber wired to the angle tube and attached to the canister with a wing nut clamp.

The canister is of ridged, lacquered metal 6½ inches long, 5-1/8 inches wide, and 2-3/4 inches thick. On the bottom a finely perforated plate, supported on the outside by an H-shaped crosspiece, serves as the inlet port.

Translations: Inside facepiece:

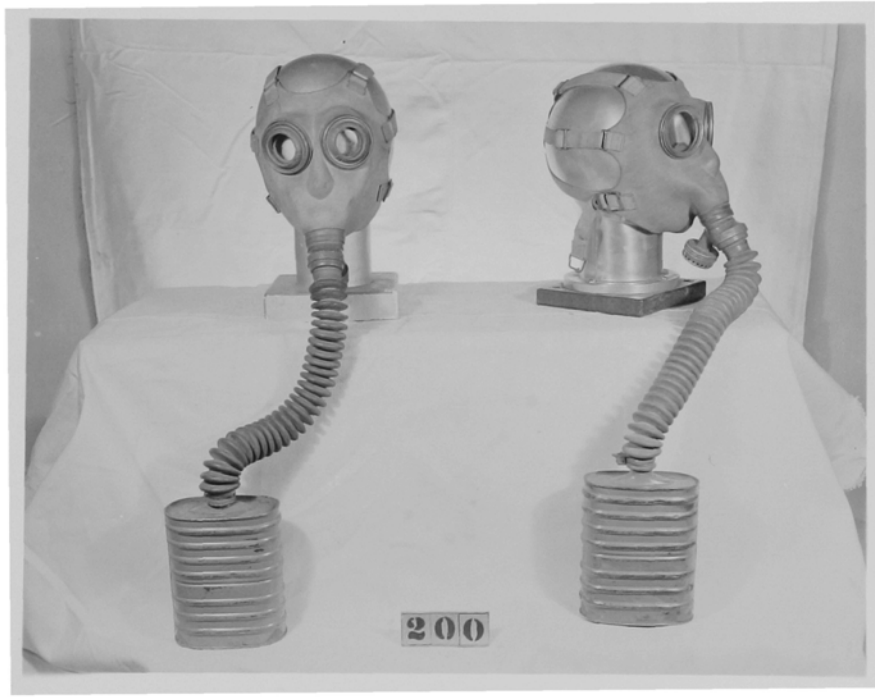
"Fujikura Industrial Co.
10th month 7th year of Showa (Oct. 1932).

On canister:

Chemical Industry
5th month 7th year of Showa (May 1932).

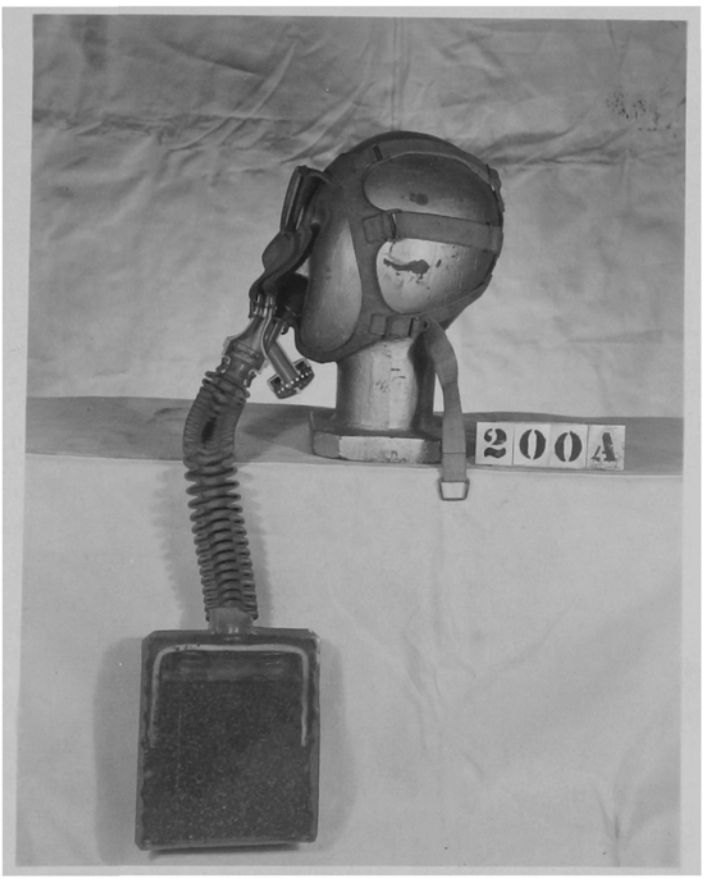
Remarks: Photograph show this mask with optical lenses on left, standard lenses on right.

[redacted]



200-MASK, GAS, ARMY, TYPE 91

[redacted]



200A-CUTAWAY SHOWING ARRANGEMENT OF PARTS IN MASK, GAS, ARMY, TYPE 91 DESCRIBED IN 200.

99A-MASK, GAS, ARMY, TYPE 95, W/HOOD

General: The type 95 Army Gas Mask with hood is identical to the usual type 95, with the exception of the following points:

Weight: 3 lbs. 6 oz., without carrier.

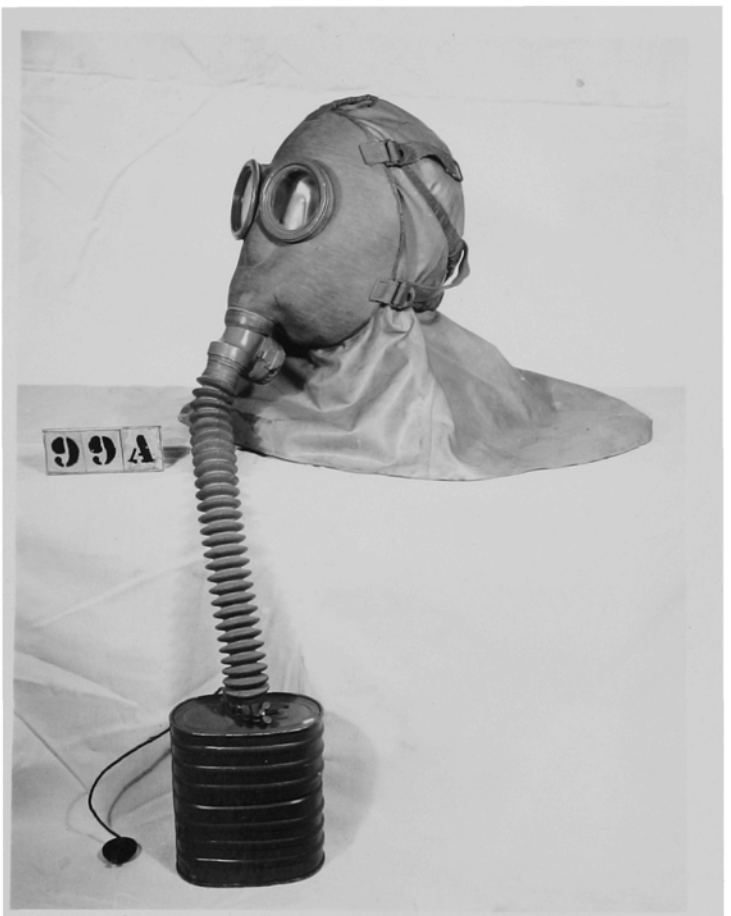
Facepiece: The forehead instead of being cut to the contour of the face is rounded probably to facilitate attachment of the hood.

Hood: The hood is made up of two sections of rubber, 1/64" thick, sewed together to give a bell shape, one section covers the front, the other the top and back of the head; the pieces have been cut at the top and sewed to achieve the shape desired. These four seams intersect at the top of the head. The length from the point of intersection to the bottom rear is 19 inches, and the circumference at the base of the hood is 48 inches. The hood is sewed to the edge of the facepiece. All the seams are covered on the inside with cement and rubber tape.

Head Harness: The head harness consists of a stockinette covered rubber pad and five elastic and fabric straps of which four, are attached to the pad, which is sewed to the head $5\frac{1}{2}$" below the intersection of the seams. These four straps can be adjusted with the quick release buckles with which they are equipped. The fifth strap is sewed to the hood at the intersection of the seams. A sixth strap of fabric without a fastener and probably for tightening the hood around the neck is attached to the hood $2\frac{1}{2}$ inches below the pad. All seams are reinforced with tape and cement on the inside.

Remarks: This mask with hood could be used for protection of personnel with head wounds or give added protection to personnel who participate in large scale decontamination work. For the latter use the mask would be uncomfortably warm.

[redacted]



99A-MASK, GAS, ARMY, TYPE 95, W/HOOD



99B-CUTAWAY SHOWING ARRANGEMENT OF PARTS IN MASK, GAS, ARMY, TYPE 95 ALREADY REPORTED IN LOOSELEAF NOTEBOOK, "JAPANESE CHEMICAL WARFARE," PAGE 2.

[redacted]

~~100A~~ 100B-MASK, GAS, ARMY, TYPE 99, w/HOOD

General: The Type 99 Army Gas Mask with Hood is identical to the standard Type 99 Mask with the exception of the following points:

Color - Varies
Weight- 2 pounds, 12 ounces, without carrier.

Description:

Facepiece: There are two types of facepieces used on this mask which are designated as A and B in this report. A is cut identically to the Type 99 without hood and the hood is sewed to the facepiece 3/16 inches from the nearest edge; The facepiece of B is cut in the same fashion as the Type 95 Mask with Hood, and the hood is attached at the edge.

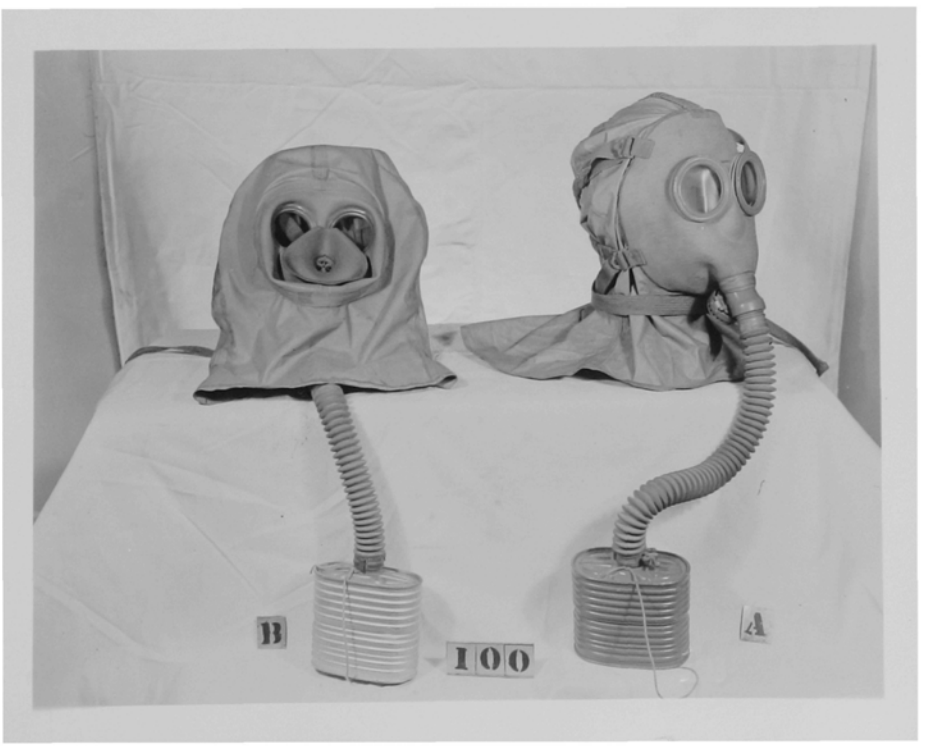
Hood: The hoods are made in the same shapes and with the same demensions as the hood used on the Type 95 Mask.

Head Harness: The head harness on Mask Type A is the same as the usual harness on Type 99 Army Gas Mask, with the pad sewed and cemented to the hood.

The harness on Type B is similar to that on the Type 95 Mask with Hood, but in this case the fifth strap is attached to the pad where it can be adjusted with a buckle.

In both cases a fabric strap is provided for tightening hood about the neck.

Remarks: This type mask is apparently used in heavy decontaminating work or for protection of personnel having head wounds.



1000-CUTAWAY SHOWING ARRANGEMENT OF PARTS IN MASK, GAS, ARMY, TYPE 99 AS REPORTED IN LOOSELEAF NOTEBOOK, "JAPANESE CHEMICAL WARFARE, PAGE 3.

101A-MASK, GAS, ARMY ASSAULT
101D

General:

Color:	Yellow brown facepiece, brown canister.
Markings:	Embossed Japanese characters inside left cheek, seal on canister.
Components:	Facepiece, Canister, headharness.
Dimensions:	11-3/4" high, 9½" wide.
Weight:	1.75 lbs. (785grams)

Description: The facepiece is of stockinette covered rubber 3/32" thick, with the outer edge and the area around the eyes ridged to effect a better seal on the face and to give additional strength. The eyepieces are 2-inch diameter glass lenses set in metal frames 2-9/16 inches in diameter. These frames are crimped onto the facepiece. A Y-shaped tissot tube is held on the inside of the facepiece by two rubberized fabric strips held in place by the eyepiece flange.

The inlet valve is a rubber disk held by a stud mounted on a spider inthe angle tube. A perforated metal guard which screws onto the valve housing and protects the rubber outlet valve extends to the rear at a right angle from the angle tube beneath the chin.

The head harness consists of a stockinette covered rubber pad carrying six elastic and fabric straps. The upper four have adjustable slide buckles and are passed through metal loops which are held by fabric strips sewed to the edge of the facepiece. The bottom straps are equipped with quick release buckles which are attached to the facepiece. All seams on the facepiece are covered with rubber tape and cement. All metal parts are painted or lacquered in the same color as the canister.

The canister is a lacquered metal cylinder 3-1/16" high with a diameter of 3-5/8". It screws into the angle tube in which a rubber washer is seated to seal the joint. At the base a projection 2-3/4" in diameter extends ½ inch from the main part of the canister. Eight ½ inch slits on the periphery of this projection comprise the inlet port of the canister; a rubber ring is provided to seal these slits when canister is not in use.

Remarks: This mask is found with different type canisters than the one described above (101A). In the photograph, 101D shows another type snout canister. It is a blue lacquered, cylindrical brass canister which screws into the threaded opening in the angle tube as did the canister in 101A. On the base of this canister there are 37-¼ inch holes arranged in four concentric rings. The inlet valve is inside the canister. Translation on canister 101D mask read as follows:

On left cheek inside:
Nippon Chemical Industries.
Seal on Canister:
N.C.I. Trademark.

[redacted]



101A-MASK, GAS, ARMY ASSAULT
101D

[redacted]



101B-CUTAWAY VIEW OF MASK, GAS, ARMY, ASSAULT (ITEM 101) REPORTED IN LOOSELEAF NOTEBOOK "JAPANESE CHEMICAL WARFARE," PAGE 3A.



102A-CUTAWAY VIEW OF MASK, GAS, CO, GENERAL SERVICE
REPORTED IN LOOSELEAF NOTEBOOK, "JAPANESE CHEMICAL WARFARE,
PAGE 4a.

103A-MASK, GAS, HEAD WOUND, MODIFIED

General:

Color:	Brown facepiece, grey-greenhood, olive drab metal parts.
Components:	Facepiece, hood, head harness, valve housing hose, canister.
Weight:	3.5 lbs.

Description: This mask is identical to Item 103, Mask, Gas, Head, Wound, except that the stockinette rubber facepiece is cut in such a manner that it does not contact the angletube. The hood extends below this facepiece, and is wired to the angletube; the tissot tubes are vulcanized to this section.

Remarks: The reference mask is reported in the looseleaf notebook,"Japanese Chemical Warfare", page 4.



[redacted]

103B-MASK, GAS, HEAD WOUND, MODIFIED

General:
Color: Yellow Brown
Weight: 4¼ lbs.

Description: All of the component parts of this mask are identical to the Hood Type Gas Mask reported in the looseleaf notebook, "Japanese Chemical Warfare," page 4 with the addition of a device for testing for gas.

A nipple, 3/8 inches long, perpendicular to the angle tube, is threaded to receive the attachment whichcontains a valve system that permits a controlled admission of air into the mask, bypassing the canister. This attachment consists of a cap, 3/4 inches long, 7/8inches outside diameter which screws on the nipple on the angle tube and houses a screwhead which is used to control the valve system. The valve consists of two perforated plates, one metal, one plastic or wood which are held in place by a metal pin seated in a metal strip across the mouth of the tube. By turning the screwhead air can be left into the mask to a degree determined by the wearer of the mask.

Remarks: Presumably the purpose of the attachment described above is to permit a "test for gas" without removing the cumbersome mask.



547-MASK, GAS, ARMY, M/RUBBER REINFORCED, FACEPIECE

General:

Color:	Tan facepiece, brown metal parts and canister
Markings:	Black printing on pink label on canister.
Components:	Facepiece, hose, canister, head harness.
Weight:	3 lbs. 2 oz. (w/o carrier).

Description: Facepiece: This facepiece is similar to that of the Army Assault Gas Mask (101A-101D). It is made of stockinette covered rubber, 3/32" thick, molded with a ridge an inch to an inch and a quarter wide on the inside to form a better seal on the face. The eyepieces are 2-1/8" glass discs mounted in 2½" metal frames which screw onto a metal socket crimped to the facepiece. A piece of coarse fabric material is cemented or vulcanized to the area around the eyepieces on the inside. A flutter valve serves as outlet, and is located under the chin, connected to the inside threaded hose receiver ring. The inlet duct into the facepiece is connected to a y-shaped tissot tube.

Head Harness: The head harness is a stockinette covered rubber pad joining four elastic and two fabric straps. The fabric straps can be adjusted by means of the quick release buckles held in the fabric loops sewed to the facepiece.

Hose: The 10" hose is of light brown corrugated crepe rubber. It is wired to the facepiece and attached to the canister with a wing nut clamp.

Canister: The canister is made of brown lacquered metal 5½" wide x 2-3/4" thick x 6 " high. The inlet port is closed by a built-in metal cap which is held closed by springs inside the canister. It is opened by pushing up and twisting right.

Label on Canister:

Lot No.____

Efficiency: Canister will absorb completely all gases.

Directions for use: 1.) Take out the cork on the top of canister and connect hose to canister with metal ring.

2.) Push in on the inlet valve cover at the bottom of the canister, turn in direction of arrow (right).

When not in use: 1.) Disconnect hose, replace cork.

2.) Keep in a dry place.

Tokyo (trade mark) ITABASHI
NIPPON CHEMICAL INDUSTRIAL COMPANY, LTD.

Remarks: The type number of this mask was not learned.

[redacted]



547-M[illegible] K, G[illegible], [illegible]RMY, [illegible]/RUBB[illegible] R[illegible]INFOR[illegible]D, F[illegible]C[illegible]I[illegible]

[illegible]

550-MASK, GAS, ARMY, DIAPHRAGM

General:

Color:	Olive drab
Markings:	Stamped numerals and Japanese characters on outside, chin and facepiece; embossed and stamped characters on top of canister.
Components:	Facepiece, hose, canister, head harness, accessories.
Weight:	2 lbs. 3 oz. (without carrier)

Description: The facepiece and hose of this mask are of similar construction to the Mask Gas, Army, with round canister (553) except for differences noted below:

This mask is equipped with optical lenses 1 7/8 inches in diameter, set in folded rubber mountings, which in turn are mounted in metal frames 2 11/16 inches outside diameter.

There is an angle tube on this mask from which projects the outlet valve, a rubber disc seated in a metal housing covered by a hinged, perforated metal guard.

The diaphragm is a metal cylinder 2 11/16 inches outside diameter by 3/4 inch. A small megaphone device, 1 3/4 inches by ½ inches screwsinto the main cylinder which is constructed inside of metal foil and rubber seals and is protected by a screen on the inner end of the megaphone.

The canister is of oval shape. Its dimensions are 4½ inches long x 3 7/16 wide x 3 7/8 high.

Translations:

Facepiece.	"Scientific research."
	"No. 3"
Canister.	"Chemical Industries" (embossed)
	"Provisional Designation of Scientific Research" (Black) "secret" (Red)

Remarks: The canister used on this mask as photographed is interchangeable with 551 and 553.

[redacted]



550-MASK, GAS, ARMY, DIAPHRAGM

[redacted]

551-MASK, GAS, ARMY, DIAPHRAGM, FOR HIGH RANKING OFFICERS

General:

Color:	Olive drab
Markings:	Facepiece-Stamped Japanese characters on chin, outside; embossed and stamped Japanese characters on top and bottom of canister.
Components:	Facepiece, hose, canister, head harness, accessories.
Weight:	1 lb. 13 oz. (w/o carrier).

Description: The mask is almost identical to the Mask, Gas, Army, W/Round Type 553 Canister: The exceptions are:

This mask has optical lenses 1-7/8 inches wide, set in folded rubber mountings; these in turn are mounted in smooth edged metal frames 2-11/16 inches outside diameter. Anti-dim disks were included with this mask.

A solid metal cap is hinged to the outlet valve housing instead of a perforated metal guard. A 5/8 x 3/4 inch projection extends from the cap, and into this can be insorted a small, black, wooden whistle which accompanies the mask.

The hose, canister, and head harness are identical to 553.

Translations: Facepiece:

Outside, left "For Commander No. 10"
right "Scientific Research"

Canister: bottom stamped "Mark 1A"

All other translations are the same as on 553.





552-MASK, GAS, ARMY, W/OVAL TYPE CANISTER

General:

Color:	Olive drab.
Markings:	Stamped Japanese characters and arabic numerals on outside facepiece, and top and bottom of canister.
Components:	Facepiece, head harness, angle tube with outlet assembly, hose, canister.
Weight:	1 lb. 15 oz. (without carrier).

Description: This mask is the same as the Mask, Gas, Army, Diaphragm (550) with two exceptions:

The main difference is that there is no diaphragm on this mask. The outlet assembly is mounted on the angle tube in the same manner, but the construction is slightly different. The outlet valve guard is hinged to a lid 3/32 inch thick in which is set the valve seat. This lid is in turn hinged to a metal disk at the end of the outlet duct; the connection is sealed by the rear of the valve seat which is of black rubber construction. The overall dimensions of this assembly is 1-13/16 inches diameter (slightly less at the front) x 1-3/8 inches long.

Translations: The markings on this mask are the same as were found on Item 550.

Remarks: No carrier or accessories were available on this mask. No type number was indicated on mask examined.



553-MASK, GAS, ARMY, W/ROUND TYPE CANISTER

General:

Color: Olive drab.
Markings: Japanese characters embossed, left cheek, inside, stamped chin outide of facepiece; Embossed and red and black characters on canister top and bottom.
Components: Facepiece, hose, canister, head harness, supplementary mask.
Weight: 1 lb. 12 oz. (w/o carrier).

Description: Facepiece: The facepiece resembles the type 95 Army Gas Mask facepiece. There are, however, a few notable difference.

There is no angle tube in this mask, but in its place a metal connection, about 3/4 inches long and 1-7/8 inches in diameter has been substituted. A tube, ½ inch x 1-1/8 inch, extends below the connection, and the hose is wired to this. At the top of the connecting ring on the inside of the facepiece are two small projections about ½ inch x ½ inch which the split tissot tubes are attached. The tissot tubes are not connected together in this mask. The tissot tubes are held in place by metal studs attached to the connecting tube.

Supplementary Mask: A supplementary mask is held to the inside of the facepiece by a metal stud. This mask prevents dimming of the inside of the eyepieces. It is molded to fit over the nose and mouth. An inlet port contains a valve which consists of a rubber disc and stud, molded as one piece, set in a spider. Below this valve is an outlet passage which is seated over the duct to the outlet valve. A rubber disc is seated on the outside end of the duct. The outlet valve is protected on the outside of the facepiece by a perforated guard hinged to the valve housing.

Head Harness: The headharness is a stockinette covered rubber pad carrying five fabric straps, each of which has a three inch section of fabric sleeve covered rubber. The two lower straps are equipped with quick release buckles.

Hose: The hose is identical to the type 95 mask hose; the hose connections are also the same.

Canister: The canister is a ridged metal cylinder 3-1/8 inches high and 4-1/16 inches outside diameter. A black rubber plug is provided to seal the 3/4 inch inlet port when the mask is not in use.

Translations: Facepiece:

Inside, left cheek-Showa (Chem. Ind.).
Outside, left-"Scientific research"
right-"Mark 1 B, No. 51.

Canister: Top-embossed-"Chemical Industries".
stamped in black, " Provisional Designation of Scientific Pesearch", stamped in red-"Secret".
Bottom: embossed-"13th year of Showa" (1938)
stamped-"Mark 1 B".



553-MASK, GAS, ARMY, W/ROUND TYPE CANISTER

685-DUAL PURPOSE GAS MASK

General: The facepiece and head harness of this mask are identical to the Type 95 Army Gas Mask.

Color: Olive drab.
Components: Facepiece, head harness, valve housing, 2 hoses.
Weight: 2 lbs. 4 ozs. (w/o carrier).

Description: In place of an angle tube this mask has a brass valve housing, in general of box shape, 2¼" wide, 1-7/8" high, and 1-5/8" deep. The facepiece is wired to a projection from the top of the housing. On the right side, as the mask faces, is the outlet valve and seat. It is protected by a perforated metal screw-on guard. On the opposite side and from the bottom extend projections to which the two hoses are wired. The crepe rubber corrugated hose extending from the bottom is in two 1 foot sections wired to a metal coupling. The other hose, of slightly different construction is also in two sections, one 28 inches long, the other 4½ inches; they are also joined by a metal coupling, but not wired to it. A metal regulator is joined to the other end of the short hose. It has a screw control. This regulator looks very much like the control valves in Japanese oxygen masks.

The front of the housing is rounded from the top downward 1-3/8 inches. It drops off and the bottom ½ inch is square. From the ridge thus formed a 7/8 inch switch extends with which the air intake can be switched from one hose to the other.

Remarks: No canisters were found with this mask. It is believed that a standard protective canister is used on the hose composed of the two-1 foot lengths and an oxygen canister or source is connected to the hose which terminates in the valve connection.



685-DUAL PURPOSE GAS MASK

[redacted]

675-MASK, GAS, UNKNOWN W/AIR COOLER ON HOSE

General:

Color:	Olive drab
Components:	Facepiece, hose, air cooler, headharness.
Weight:	1 lb. 9 oz. (w/o carrier).

Description: The facepiece is of stockinette covered rubber, semi-molded and cut to fit the contour of the face. A supplementary mask of slightly thinner rubber fits inside and is wired to a tube extending from the hose coupling. There are no valves on any part of the mask or hose.

The eyepieces are of 2½ inch diameter laminated glass set in 3-inch metal frames which screw onto collars wired to the facepiece; they are sealed by rubber gaskets.

The hose is in two sections; one 12 inches, the other 4-3/4 inches long. It is made of corrugated crepe rubber tubing. The sections are joined by a cylindrical air cooler 2-3/16 inches x 1-15/16 inches, similar to the CO mask air coolers with 19 tubes arranged in 3 rings.

A 1-3/4 inch, outside diameter, screw on coupling is attached to the end of the hose. There are no markings.

Remarks: There was no canister attached to the mask examined. There was no outlet valve in the facepiece, so it seems likely that the canister or a check valve attachment at the canister end of the hose provided the outlet.



[redacted]

383-MASK, GAS, AVIATOR

General:

Color:	Beige
Components:	Carrier, air intake apparatus, nose clip, hose, canister protective cloth.
Weight:	1.4 lbs.

Description: Carrier: The mask carrier is made of beige colored cloth and when closed measures 9" long, 5" wide, 3" high. It is closed by two flaps secured with a snap fastener. On the top flap is a patch of cloth of lighter color. A small hand carrying strap is attached to both sides of one end. Inside the carrier a large pocket is provided for the canister and a smaller pocket for the protective cloth.

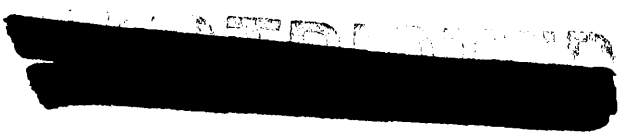
Air intake apparatus: A curved piece of thin black rubber with two short prongs inside the curve is attached to a short metal goose-neck. The two prongs are placed inside the mouth with the curved piece of rubber brought up flush against the mouth. Directly opposite the apparatus is the outlet valve, a common one used in Japanese aviator masks. Both are connected by the gooseneck to the hose.

Nose-clip: This is attached to the air intake apparatus by a short string. It is clamped on the nose in order to inhale through the mouth only. It is a common rubber disk clip of which the two disks are attached to small metal strips. The spring attached to the metal strips exerts a desirable force on the clip in order to function properly.

Hose: A common corrugated crepe-rubber hose, 16½" long, connects the air intake apparatus to the canister.

Canister: This canister is similar to that used in item number 384-mask, gas, aviator (new). It is 3½" long, 4" wide and 1-3/4" thick and is painted olive drab. The air filter used is charcoal. A small belt clip is soldered on one side of the canister.

Protective cloth: To a small pocket inside the carrier, attached with a short length of string, is a white square piece of cloth. This is used for wrapping around the air intake apparatus when not in use, preventing dust and foreign matter from accumulating on it.





383-MASK, GAS, AVIATOR

[redacted]

384-MASK, GAS, AVIATOR (NEW)

General:

Color:	Biege carrier, green mask.
Components:	Carrier, facepiece, hose, canister, extra parts.
Weight:	1.7 lbs.

Description: Carrier: The mask carrier is made of biege-colored cloth whose dimensions when closed are 9" long, 5" wide, 4" high. It is closed by four flaps, two folding over from the ends and secured by a button and loop, and the two outer flaps folding over from the sides, fastened with a snap. On the top flap is a green label with black Japanese characters. Inside the carrier is a large pocket which holds the canister and two smaller pockets which carry the extra parts. A green cloth carrying strap is attached to the cover.

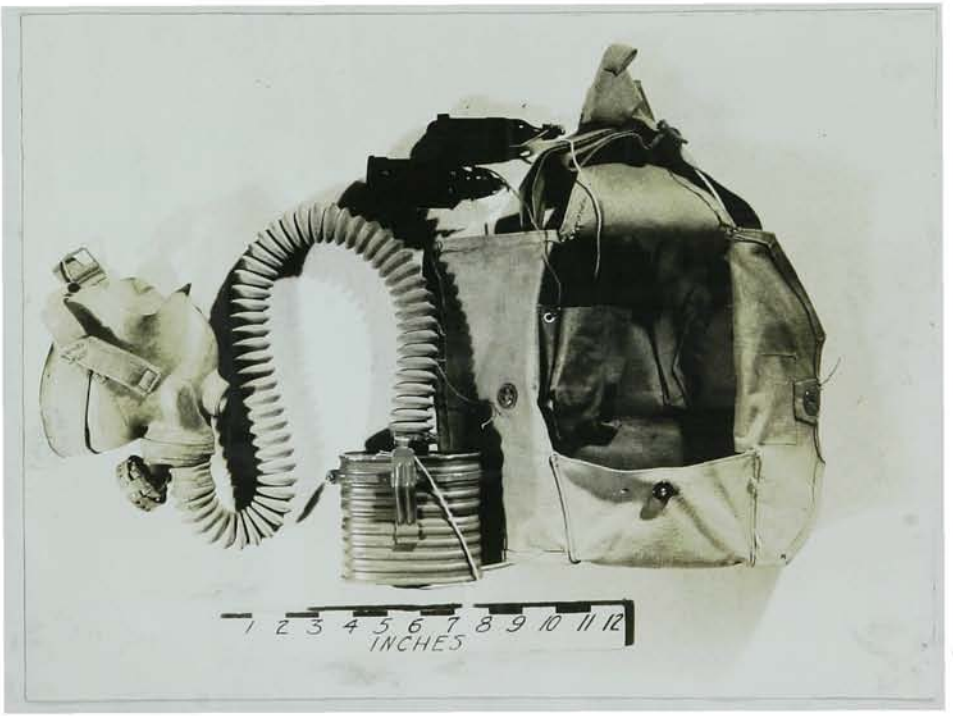
Facepiece: Like most aviator masks, this facepiece covers only nose, mouth and chin. The inlet valve from the hose and outlet valve are both connected to a very short extension below the front of the facepiece. The metal cover for the outlet valve may be opened on its hinge to reveal a small rubber cup inside of which is a part of the valve. Running under the chin part of the facepiece is a small cloth strap which extends around to both sides of the facepiece, and there is a short strap which fastens to the aviators helmet, pulling the mask tight against the face.

Hose: The 22" length of hose is a common piece of corrugated, crepe-rubber. It is attached with wire and rubber tape to the facepiece and by a small screw-type clamp to the canister.

Canister: The canister is 4" long, 3-3/4" wide, 1-3/4" high and is made of a light metal with corrugations like those in the hose. Near the top is a small metal strip running around the canister and attached to this on one side is a metal clamp which fastens the canister to the aviator's belt. In the center of the bottom is the air intake, covered by a black rubber disc with a string attached for quick removal. The layer of air-filter material inside is activated charcoal.

Extra parts: Inside the carrier are two small pockets which provide carrying space for two bottles. Both these bottles are black and have rubber cup lids. The translation on the larger reads "Antiseptic Solution" and is evidently an alcohol. The smaller bottle translation reads "Anti-freeze Solution". Both have strings which attach rubber lids to the bottles and the bottles to the carrier.

RESTRICTED



384- MASK, GAS, AVIATOR (NEW)

RESTRICTED



384A-CUTAWAY VIEW SHOWING ARRANGEMENT OF PARTS IN MASK, GAS, AVIATOR (NEW) (384).

414-MASK, OXYGEN, AVIATOR

General:

Color:	Color of bladder, gray: balance of mask, brown.
Components:	Facepiece, hose, bladder, cover, oxygen intake and hose.
Weight:	1.54 lbs.

Description: Facepiece: It is an ordinary aviator's mask covering only the nose and mouth. The mask is made of rubber with a piece of felt attached to the flat part which fits against the face. The hose inlet is at the bottom of the mask and the outlet valve is on the front of the mask. It is equipped with a metal tip which opens and closes the outlet valve, and a short goose neck extension. Cloth head straps are fasteded on both sides of the mask.

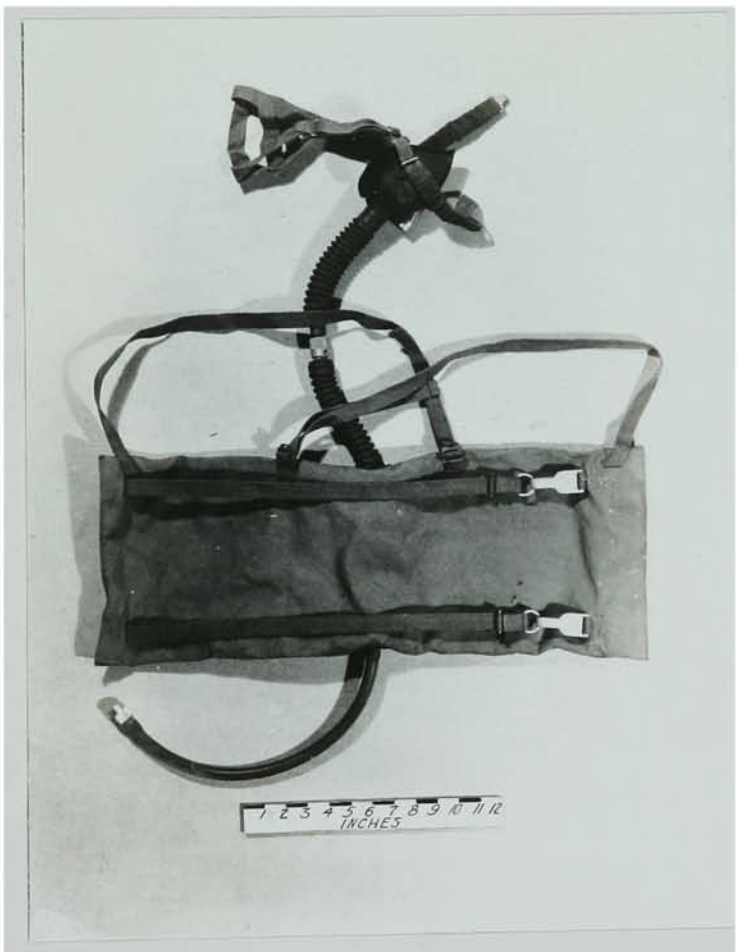
Hose: The rubber hose is 14" long, corrugated, and has a metal coupling in the middle of it. It is attached to the mask with a piece of thin wire and rubberized tape.

Bladder: The bladder is completely inclosed in a gray cloth covering. The cover is 24" long x 9½" wide and has seams along all four edges. In the center of one long edge is the inlet for the facepiece hose and in the center of the opposite edge is the inlet for the oxygen hose. Both inlets are sealed by airtight rubber plates. Cloth straps are attached to the bladder cover for fastening it around the waist.

Oxygen intake and hose: The hose which connects the oxygen tank to the bladder is a 16" length of solid rubber tubing, brown in color. On the outer end of this hose is the oxygen intake valve, a white metal cap slotted around the edge, to permit attaching it to metal tips on the oxygen tank. Inside the intake, a rubber washer provides an airtight connection.

Remarks: As shown in photograph, the only connection to be made is to the source of oxygen supply.





414-MASK, OXYGEN, AVIATOR

[redacted]

684-MASK, OXYGEN, SPECIAL

General: The facepiece and head harness of this mask are identical to the Type 95 Army Gas Mask reported in notebook "Japanese Chemical Warfare," p 2.

Color: Olive drab.

Components: Facepiece, head harness supplementary mark, hose, valve housing, bladder.

Weight: 2 lbs. 3 oz.

Description: The facepiece of mask has no angle tube, but in its place is a 1-13/16 inch screw in coupling which opens into a supplementary mask inside the facepiece. The hose is a 26 inch length of corrugated crepe rubber tubi. with screw type couplings on both ends. The supplementary mask covers wearer's nose and mouth, and serves to prevent clouding of eyepieces. The hose and a rubber bladder are connected by a valve housing having three ports and two valves. One of the ports opens into the hose. An inlet valve composed of a light metal disc in a brass seat is between the duct leading to the bladder and the central junction of the valve housing. Directly across the housing is an outlet valve of similar construction. The duct leading from this valve seat ends in a screw-on metal sleeve.

The bladder is 12 inches x 10 inches x 2 inches. There are two olive drab connections 1-7/8 inches in diameter and one metal plated push type valve.

There are two fabric straps which can be snap fastened to form two loops.

Remarks: Some parts of this equipment are missing. The means of generating or supplying oxygen is not known. The equipment performing this function would be connected to the valve housing or the bladder.

[redacted]



684-MASK, OXYGEN, SPECIAL

[redacted]

679-MASK, GAS, OFFICERS

General:

Color: Brown

Markings: Two stickers on canisters:
"M" on a red and black seal.
"Patent applied for" (in English) on a blue seal, characters on box.

Components: Facepiece, headharness, canister, packing box.

Weight: 1½ lbs.

Description: This mask is of poor quality both in workmanship and in most of the materials used.

The rubber of the facepiece is fairly good grade. It is cut to the desired shape and the seam formed at the chin by the overlaping of the sides is cemented.

The eyepieces are 2½ inch glass discs mounted in 3 inch molded rubber frames which fit over 2½ inch holes in the facepiece. These frames are held in place and sealed by a section of rubberized fabric on the inside; celluloid discs are cemented to the inside of the frames to seal the lens section.

The head harness consists of six elastic straps and a rubberized fabric pad. The upper four straps are attached to the corners of the pad. The lower two have a hook and eye clasp and connect around the base of the skull. All connections of the headharness are held by cold rivets; all straps are adjustable.

The valve housing is molded of heavy rubber, wired to the facepiece. The inlet valve is a rubber disc which operates on a stud attached to a metal plate with four holes, set in the housing about one-third way from the base. The outlet valve is a 3/4" rubber disc seated on the end of a 3/4" extention from the valve housing and held in place by a bit of metal tacked to the valve seat. A 1½ inch metal tube 7/8" in diameter, slips over the extention and protects the valve. A wide rubber band covers the assembly. Two 2 inch lengths of rubber tubing, attache to the valve housing with metal tubes, form the tissot tube assembly.

The canister is a metal cylinder 3-7/8" in diameter and 2-13/16" long. The seams and the top and bottom joints are soldered. A cylindrical projection at the top, which slips into the base of the valve housing in assembling the mask, is also soldered. Two rubber discs seal the ports when the canister is not in use.

The mask is packed in a corrugated box 5-3/4" long, 4½" wide and 8½" high. It is held together by staples.

Translations: On packing box:
Large marks on sides:
"Complete"
Characters on sealing sticker:
"Nippon Mask Manufacturing Company".
"No. 1190, 1-chome, Nokata-Cho, Nakano-Ku, Tokyo"

[redacted]

Remarks: This mask does not look like other Japanese masks. It may be that this mask was manufactured for another nation. It is difficult to account for the stamp on the canister, "Paten Applied For". Nomenclature is the one reported for this mask by the collecting team.



DECLASSIFIED

681-MASK, GAS, PILOT'S

General:
Color: Aluminum facepiece, OD canister.
Components: Facepiece, attaching strap, hose, canister.
Weight: 1.05 lbs.

Description: The facepiece is of aluminum molded to fit onto the point of the chin and over bottom of the nose. The edge which touches the face is bordered by a black velvet covered sponge rubber pad which is detachable.

Two sets of adjustable straps having hook and eye attachments are attached to the facepiece; this attachment is reinforced by pieces of leather.

The outlet valve is a rubber disc type seated on a 5/8" aluminum projection extending from the facepiece. The inlet valve is apparently built into the canister.

The hose is an 18" length of corrugated rubber tubing; the corrugations are a spiral type. It is wired to a 5/8 inch metal projection from the bottom of the facepiece; a wing nut clamp is used to attach the canister. The canister was reported as Item 681A.

Remarks: This mask is evidently a light weight development for use by flying personnel. The facepiece is similar to those used in oxygen masks.



672-M.SK, G.S, UNKNOWN NATION.LITY

General:

Color:	Brown facepiece, tan canister
Components:	Facepiece, canister, valve housing, head harness.
Weight:	1 lb. 13 ozs. (w/o carrier

Description: The facepiece is of heavy rubber material cut rather square at the top, and shaped around the 1 1/8 in. x 1 3/8 inch metal valve housing to which it is wired in cement. The eyepieces are 2½ inches diameter celluloid type, set in rubber mountings in stationary brass frames. The head-harness consists of five elastic straps. A sixth, adjustable, strap fits around the nape of the neck and hooks on the right side. A strap for carrying in the alert positon is sewed to the facepiece..

The canister, 4 inches diam., 2 5/8 inches high, screws into a 1 3/4 inches socket in the valve housing . The canister is constructed partly of metal and covered with a permanent double cloth jacket rubberized on the inside. There are 8 metal-reinforced holes in the bottom of the canister jacket.

On the bottom fo the valve housing between the outlet valve andthe canister socket appear the letters S U C M P.

Remarks: This mask does not appear to be a Japanese made mask. It has the appearance of being a French or Czechoslovakian mask, possibly either captured by or made for the Japanese.



[redacted]

673-MASK, G.S, UNKNOWN NATIONALITY

General:

Color: Tan facepiece, Olive drab valve housing to canister.
Components: Facepiece, valve housing, canister and head harness.
Weight: 1 lbs 5 ozs. (w/o carrier)

Description: The facepiece is a double layered rubberized, closely woven fabric, cut in the same manner as 672 and attached in a similar manner to the m metal valve housing, 3 7/8 in. diameter by 1½ in. high. The eyepieces are 2 1/8 inches celluloid set in metal, screwed on frames and sealed in rubber gaskets.

The valve housing contains a quarter valve outlet and a protruding socket for the canister.

The headharness is the same as 672.

The canister is a metal cylinder 3 3/4 in diam. by 2¼ in high with 1/8 in. perforations on the bottom.

Embossed on the canister top are the letters U.PL.O.H. and the figure 24.

Remarks: This not a Japanese made mask.



[redacted]

b.) Navy Gas Masks

The Navy gas masks are well made with good material. There are not the great number of variations of model and type changes so evident in the Army gas masks. The Navy apparently had accepte the type 93 as standard and only occasionally made slight modifications of that type.

These masks have some characteristics which distinguish them as Navy Type. These are; color, always between a blue-gray and black; large outlet valves seated in the facepiece in front of the wearer's mouth and eyepieces of a spherical triangular shape. Apparently the navy had decided that audibility characteristics were better with outlet valves directly in front of wearer's mouth

Navy masks are often supplied with canister addenda to afford protection not given by the standard canister. The likelihood of difficulty with CO in the close quarters on board ship would make these accessories necessary.

The system of nomenclature for navy masks is by type number according to the empire age calendar, type developed in 1930 is type 90, in 1936 type 96, in 1942 type 2, followed by a number indicating the number of modifications of that type. Example: Type 93 No. 4 is the fourth modification of design of the mask developed in 1933.

In the masks manufactured most recently there was a noticeabl substitution of non-metal parts for formerly metal parts, a condition revealing Japanese critical metal shortage.

[redacted]

51

106A-MASK, GAS, NAVY, TYPE 93,NO.4

General: The Type 93, No. 4 is an improvement on the Type 93, No. 3 Navy gas mask, and except for these few improvements they are identical.

Color:	Black, gray canister, khaki carrier, gray case.
Components:	Facepiece, hose, canister, head harness, auxiliary canister, fabric carrier, case, accessories.
Weight:	6½ pounds. complete

Description: The cheif improvement on this mask is in the material used in the facepiece moldedin the same shape as the No. 3 Mask, reported in notebook, "Japanese Chemical Warfare," it is made of heavy black rubber, covered with stockinette reinforcement only at the points at which certain parts, as the head harness straps, are sewed on. The valve housing is made of a plastic material, but has the same metal guard, painted black.

The hose is a 16 inch length of corrugated rubber tubing wired to both the facepiece and canister.

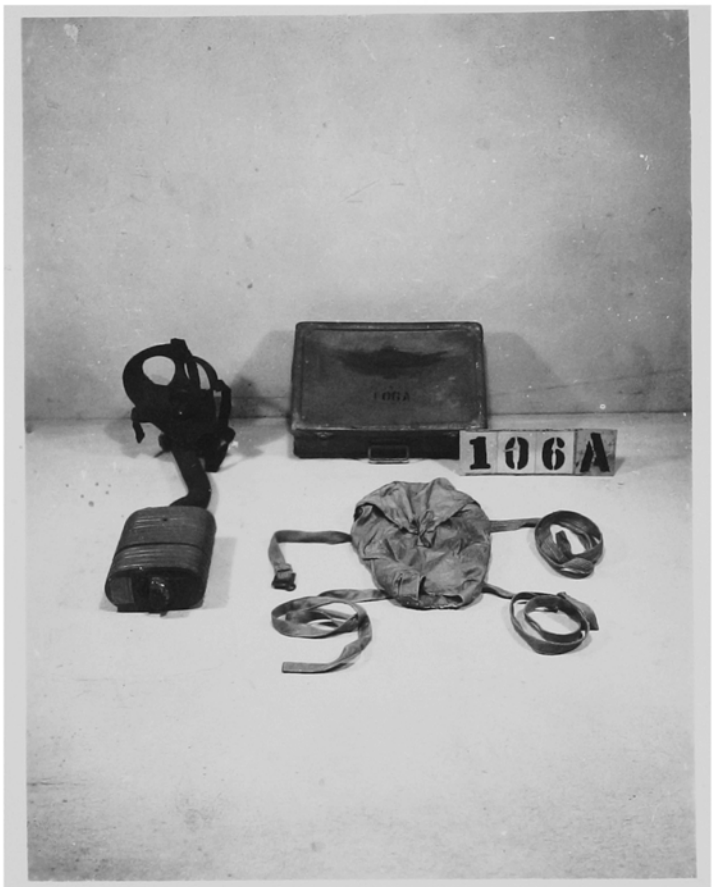
The auxilary canister is 2½ inches high, 5 5/6 inches wide and 3 3 1/8 inches thick. It attaches to the base of the c nister. At the bottom of the auxiliary canister is a device by which the flow of air can be passed through or by-passeddirectly into the main canister. This auxiliary canister, according to the instruction pamphlet included, is for protection against CO in densities up to 3%. It is effective under such condition for 2 to 3 hours. It will also absorb moisture.

Two carriers are provided. One is a khaki-colored cloth sack provided with loops on the inside for keeping the parts in place. It has a shoulder strap with a buckle and a waist-strap without a buckle.

The other carrier is a strong pasteboard container made very much like a suitcase; it is 14½ inches long, 1½ inches wide and 4½ inches deep. It hada hinged lid with two metal clamps for closing and a metal handle for carrying. On each end there are frames into which can be slipped user's name card.

Translations: Showa date of manufacture (19.8) embossed inside, chin, facepiece.

"Type 93, Mark (No) 4 Gas Mask "stamped on flap, inside, of clo cloth carrier; onccard at one end of mask.



106A MASK, GAS, NAVY, TYPE 93, NO. 4

[redacted]

510-MASK, GAS, NAVY EXPERIMENTAL, TYPE 3, CHLORINE

General:

Color: Gray, blue harness.
Markings: Facepiece: Embossed numerals and Japanese characters inside.
Canister: Black Japanese characters on white label.
Components: Facepiece, canister, head harness, outlet valve, canister plugs.
Dimensions: 6½" high x 3½" wide.
Weight: Approx. 14 ozs.

Description: Facepiece: The facepiece is made of rubber which ranges in thickness between 1/32" to 3/32". It is made to fit th contour of the face, covering the nose and mouth. A 3-inch length of flexible 1/16 inch wire, hooked at each end, serves to adjust the facepiece over the nose; the hooked ends pass through rubber lugs raised from the facepiece and this device holds the wire in place; a third lug in the center prevents the wire from slipping. The outlet valve housing is crimped onto the facepiece and a perforated metal guard screws onto this housing. The crimping flange acts as a seat for the 5-pointed rubber valve. The inlet valve is in the outlet part of the canister. It consist of a thin rubber disk which is held in place by a copper stud.

Head Harness: The head harness consists chiefly of three blue fabric straps. One of these is sewed in an oval shape which fits the contour of the back of the head, horizontall On each end of this piece a short length of the same material, which holds a metal D-ring, is attached; through these D-rings pass the harness adjusting D-rings on the other two straps. These straps again pass through a metal loop attached to the cheeks of the facepiece and then the other ends are connected in back of the neck with a metal hook and loop coupling. A 2-3/4" section of each of these two straps is elastic, covered by a fabric sleev A flanged screw-in socket fits snugly into the bottom of the facepiece; it is further sealed with wire, over which fits a wide rubber band. This socket is used to attachethe canister to the facepiece. The connection is sealed by a rubber washer in the socket.

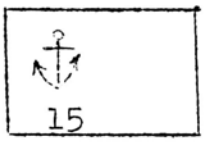
Canister: The canister is a metal cylinder 2-3/4" high and 3-1/8" in diameter. On the top is a 2-5/8", threaded projection which is screwed into the socket in the facepiece. All joints in the canister are soldered. It is protected by a coating of blue-grey lacquer. Two black rubber plugs are provide for sealing the canister when not in use, and are attached to the canister with strings which are tied to metal loops soldered to either end for that purpose.

Translations: Embossed on the inside of the face-piece:

Left: Sho.Chem. 18.11 which means Showa Chemical Works, 18th year, 11th month of Showa or 1943, November.

54

[redacted]

Right: 

which indicates: Navy arsenal.

Printed on a white label attached to the canister are instructions for use and care of the mask.

Notices for Absorbent Canister for:

PROVISIONAL DESIGNATION TYPE 3 GAS MASK.

1. The Provisional Designation Type 3 Gas Mask will be used for special work in a small space, and the mask is efficient for chlorine.

2. The maximum life of the canister, against chlorine is about 30 minutes.

3. The canister plugs will be removed immediately before the mask is to be used.

"When the mask is not in use, even for a short time the canister will be plugged."

4. "When storing the mask, screw the canister from the facepiece and plug the canister."

5. "Keep the mask in a dry, cool place."



401-MASK, OXYGEN, AVIATOR, NAVY

General:

Color:	Dark brown headpiece, khaki bladder; black carrying case.
Markings:	Japanese characters and Arabic numerals on small label on bladder.
Components:	Headpiece; corrugated rubber hose; rubber khaki covered bladder; 2 small air hoses to headpiece; 1 rubber air tube from bladder; radio and anti-fog wire connection carrying case.
Weight:	10½ lbs.

Description: The headpiece is of heavy rubber covered with stockinette on the inside, semi-molded in two parts and sewed together across the middle. It is shaped generally like a hollow sphere flattened slightly at the sides; the circumference is 28 inches on a horizontal plane through the center, and 31 inches on a vertical plane. There is an opening from the chin to the base of the skull for putting the mask over the head; above and below the neck aperture, the split is closed by large black rubber flaps with 7/8 inch holes which fasten on hooks. The seal of the mask to the wearers head is effected by the inflation of a bladder within the helmet after it is put on. A rubber tube for this purpose connects to the right side of the mask; on the left is a push-type valve which controls deflation of the bladder.

Oxygen enters the helmet through a corrugated tube from the bladder which is probably the oxygen reservoir. This tube is connected to a metal angle tube in the back center; it passes forward through a duct which forks into a Y-shaped tissot tube and empties into the mask just above the vision window. Another tube, possibly an air intake, enters the mask just below the right ear. An adjustable outlet valve is located on the left temple.

The vision window is of heavy glass 12⅓ inches wide by 6½ inches high, shaped to provide maximum vision. Eight fine copper wires are set in the glass horizontally. These wires are probably to keep the glass warm enough to prevent fogging; a conductor to supply electric current enters to the right of the window.

A felt head cushion, held on the inside by 7 fabric straps, is used to adjust the mask to the individual. Sponge rubber pads are provided above and below the window to absorb perspiration. A radio receiver is built in the inside of the mask in the position of the right temple.

The carrier isa high quality black pasteboard case 12 inches x 10½ inchesxx 11½ inches with a hinged top equipped with a clasp fastener. An adjustable web strap 48 inches long is provided to facilitate carrying.

Translations: On head pad and label on the bladder:

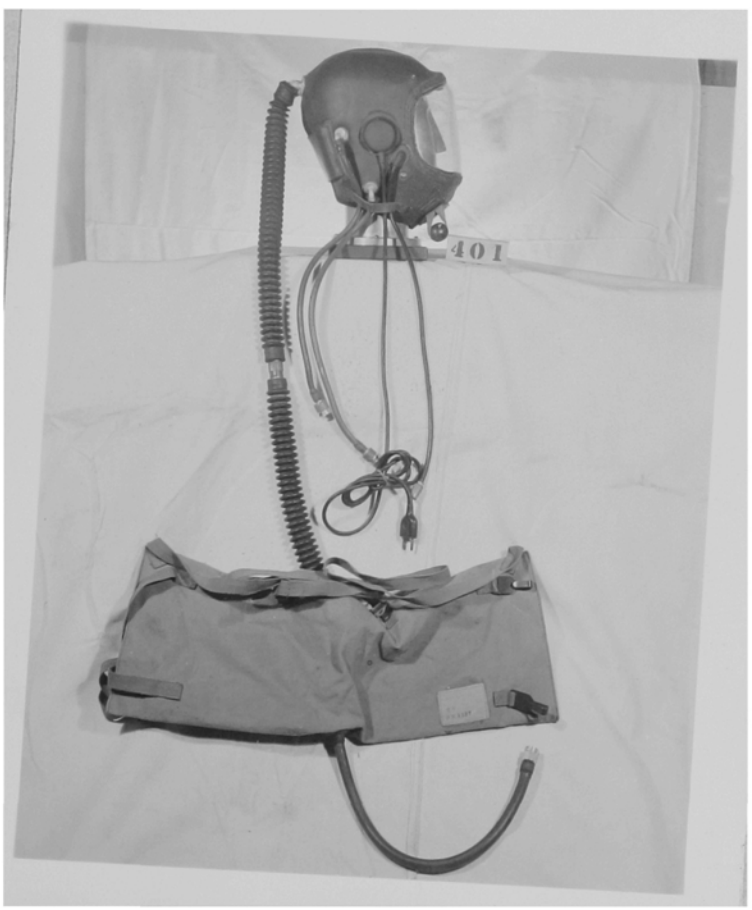
"Tokyo." -Symbol for Naval Arsenal. It is possible that these markings mean Tokyo Naval Arsenal, but it is not certain.

"Nip."
"Add."

"5237"

[redacted]

Remarks: The meanings of these translations are not fully understood. This mask is probably connected to oxygen and electrical supply within a plane.



[redacted]

596-MASK, OXYGEN, NAVAL

General:

Color:	Blue
Markings:	Japanese characters on metal plate on wooden crate.
Contents:	Facepiece, oxygen generating canister cage, water reservoir, oxygen generating canister, air bag, charcoal canister accessories.
Dimensions:	21¼" long x 13⅝" wide x 9-3/4" high.
Weight:	32.1 lbs.

Description: The container for this mask is a wooden crate, fitted with a hinge cover and two locking clamps. The bottom of the box is divided into four equal sections, 3-1/4" high each of which holds one oxygen generating canister. The mask itself fits in the remaining space above these canisters. Various accessories fit around the wall of the box.

The facepiece is a standard Naval Type 93, MK 3 except for the valve housing assembly and the tissot tubes which are replaced by a nose-cup crimped under the valve housing. This housing has the shape of an inverted "Y", the legs of the "Y" forming the inlet and outlet nipples. The middle portion of the housing is open and circular in shape. The front portion is fitted with a treated cloth diaphragm retained by a large rubber ring gasket. The connecting hoses are standard Naval types, 18" long.

The canister cage is a perforated metal oval, 8⅛" x 6" x 3", the correct size for holding the oxygen generating canister. Bolted to the bottom of the cage is the rubber gasketed inlet port to the "breathing bag". The connecting hose from the facepiece runs to a "floating" flanged nipple on the cage.

The water reservoir or "floating canister" is a small container bolted to the left side of the canister cage, as worn. It has curved cross section to fit the oval cage, and is 3-3/4" high, 2-1/2" wide and tapers from ½" to 1" thick. It has a water inlet hole on the wide outer side and two nipples projecting from the top.

The oxygen generating canister is an oval tin-plated sheet metal container, 9-3/8" long x 5-5/8" wide x 2-15/16" thick, painted a dark olive-drab color. The inlet and outlet ports located in the center of the ends, are sealed by metal caps, held in place by soldered metal straps. A threaded port on one side of the canister top is fitted with a plug when the canister is stored, and receives the tube from the water or flooding canister when in use.

The air bag, or breathing bag, is an oblong unit 13-3/8" wide, 18-3/9" high, and 5-7/8" thick when inflated, from which has been cut a 6" by 8¼" piece in the center of the upper side, thus making an "U" shaped assembly. It is in this cut out portion that the canister cage and its mounting board are located. The bag is made of several plies of rubber cloth, blue-gray outside and white inside. The bag is stiffened by two wire prongs, 10½" long, fitted in rubber sheets.

RESTRICTED

At the upper left corner of the air bag, as worn, the rubber is moulded into a short 2¼" i.d. outlet neck. A small circular sheet metal canister, 2¼" o.d. 1½" high (exclusive of a nipple), is clamped to this neck. The canister contains a charge of nut charcoal retained between wire gauzes. The connecting hose leading to the inlet nipple of the facepiece is clamped to the top of the canister.

Accessories for the mask include a small can used for carrying water to the oxygen generating canister, a standard Naval anti-dim stick, a small cardboard box of assorted spare gaskets and rubber and cotton discs, and a small combination wrench-can opener-screw driver.

Remarks: Oxygen is generated by the action of the CO_2 and moisture of the exhaled breath of the user with the sodium peroxide and potassium permanganate in the oxygen generating canister. Oxygen rich air passes into rubber breathing bag from whence it is drawn by inspiration of the user. The charcoal canister removes any sodium poroxide present. Reports on this mash (see reference below) indicate that one oxygen generating canister has a normal life of 40 to 60 minutes. Water from the reservior can be pumped (by use of aspirator bulb) into the top section of the oxygen generating canister to give an additional 20 to 30 minutes of generating life.

Reference: C.M.T.R. No. 104, 43rd Laboratory Company, 17 October 1945.



[redacted]

c.) Civilian Gas Masks

Much work had been done on masks for civilians, and each year between 1936 and 1943 produced either some new type mask, or a modification of an earlier model. Nomenclature of these masks was according to the year of Showa or Hirohito's reign, beginning in 1926. Example: 1926-1st year, 1940-15th year.

The quality of the materials used in civilian masks dropped to a very great extent in 1941. Before that time masks were made much like the army masks, and had such additional features as interchangeable hose or snout type canisters on one type of facepiece. In 1941 the Type 16th Year Mask, having no metal or rubber parts and made with a built in canister was produced; this design was used from that time for civilian masks, but in 1942 and 1943 the quality of the masks was vastly improved by the use of high grade rubber as the chief material of the facepiece. The canisters, however, were not changed.

Also included in this section are dust respirators for use by those handling materials irritating to the respiratory systems.

[redacted]

107A-M..K, GAS, CIVILIAN, TYPE 1A

General:

Color:	Brown
Markings:	Japanese characters on label attached to canister.
Components:	Face-piece, outlet valve, canister.
Weight:	1.7 lbs.

Description: The facepiece is made of rubber covered on the outside with stockinette. The two glass eyepieces are enclosed in metal rims, 2-5/8" o.d. Six head bands, made of elastic covered with cloth, are attached to the facepiece and connected to the thin rubber support which fits against the inlet tube. It is made of metal and connects the canister to the facepiece while a short arm makes connection with the outlet valve.

Behind and below the mask is the outlet valve. It is painted brown and the top may be unsnapped and raised on its hinge to show the brown rubber valve. The cover for the valve is made of metal and has a diameter of 1½".

Directly beneath the face-piece is the canister. A short neck on the canister is screwed into the end of the inlet tube. By unscrewing the canister from the tube, an inlet valve made of thin rubber and a black rubber gasket may be seen inside the tube. The canister is painted brown, is 2-1/3" high excluding the neck, and has a diameter of 4-1/8". A black rubber stopper covers the air intake hole in the bottom of the canister. A label running around the side of the canister contains black Japanese characters.

A carrying strap made of cloth is attached to the mask just above the outlet valve.

Remarks: Mask, Gas, Civilian, Type 1A (Improved Model) as listed in Japanese Chemical Warfare page 5 differs from this mask in two respects. First, Type 1A (Improved Model) has a corrugated stockinette covered rubber hose whereas this mask does not have a hose. Secondly, there is a difference in canisters used.

[redacted]



[redacted]

107A-MASK, GAS, CIVILIAN, TYPE, 1A

[redacted] 62

107B-MASK, GAS, CIVILIAN

General:

Color:	Brown
Markings:	Japanese characters on label around canister.
Components:	Facepiece, outlet valve, canister.
Weight:	1.8 lbs.

Description: This civilian gas mask has an ordinary pearshaped facepiece. The two glass eyepieces have metal rims and are 2½" in diameter. Stockinette covers the outside of the rubber facepiece. Attached to it are common head bands, cloth covered elastic sewn to a rubber support which is connected to both the outlet valve is similar to that used on all Japanese masks. The metal cover, which is painted olive drab and has a diameter of 1-7/8", may be unscrewed to reveal a black rubber valve. Different from the position of most outlet valves, this valve is at the back of the facepiece instead of in front.

Directly below the facepiece is the canister, connected to it by the plastic tube. It is painted brown, is 2-7/8" in height excluding the neck, and has a diameter of 3-7/8". By unscrewing the neck of the canister from the plastic tube, a rubber gasket and rubber inlet valve may be seen inside the tube. A black rubber stopper, attached to the canister with a string, covers the air intake hole in the bottom of the canister. A label containing Japanese characters is pasted around the side of the canister.

A cloth carrying strap is attached to the mask just above the outlet valve.

Remarks: The difference between this mask and mask, Gas, Civilian, Type 1A is the canisters used.

[redacted]



107B-MASK, GAS, CIVILIAN

[redacted]

108A-MASK, GAS, CIVILIAN, TYPE 2A, MODIFIED A

General:

Color:	Khaki facepiece, olive drab hose, brown metal parts and canister.
Markings:	Characters and Arabic numerals stamped inside cheek, outside chin of facepiece; label on canister.
Components:	Facepiece, hose, canister, head harness.
Weight:	2½ lbs.

Description: The facepiece, including eyepieces, inlet-outlet valves, shape and composition are identical to the Type 2A Civilian Gas Mask reported in the looseleaf notebook "Japanese Chemical Warfare" page 6. The hose is of crepe rubber, is twelve inches long, connected to the canister with a wing-nut clamp and wired to the valve housing on the facepiece.

Canister: The canister isbrown-lacquered metal 5 3/8 inches wide, 2 1/8 inches thick, 5 1/8 inches high. In the bottom is a one inch inlet port, which is sealed, when the canister is not in use, by a black rubber plug.

Translations:

Facepiece- Stamped on inside left cheek:
"6th Month, 12th Year of Showa" (June 1937)
Approval stamp of Army Scientific Research.
Stamped on chin, outside:
"Practical patent No. 221024"
"Practical patent No. 170514"

Canister- Center label:
"Organization Absorbent Canister, Mark 1 for Model 12th Year Civilian Gas Mask.

Yo

Manufacturing No. 26051
Showa Cml. Ind. Co. (Shoka, abbr.) Marunouchi, Tokyo.

Left label:
Efficiency.
This (canister) will absorb all kinds of battlefield gases."

Right label:
Directions for use.
1. Take cork from top of canister and connect hose.
2. Air passage may be opened by taking off the bottom stopper.

When not in use.
1. Cork both holes
2. Store in a dry cool place.

[redacted]



108A-MASK, GAS, CIVILIAN, TYPE 2A, MODIFIED A

RESTRICTED

108B-Mask, Gas, CIVILIAN, TYPE 2A, MODIF. B

General: This mask isthe same as Civilian Gas Mask, Type 2A, Modif. A (108) With a few exceptions.

Color: Facepiece tan, canister light brown.
Markings: Embossed characters on inside facepiece and sides of canister; label on canister
Weight: 2½ lbs.

Description:

Facepiece: The facepiece is semi-molded rubber made in two layers, the outer of which is reinforced by coarse fabric.

The outlet valve isen the facepiece directly before the mouth. It is seated in a 1 3/4 x 7/8 inch metal casing which is attached to the facepiece by a threaded metal gasket on the inside. The only opening is a 3/4 inch tube which extends downward from the casing. This construction could be classed as a diaphragm.

The dimensions of the canister are 5½ inches wide, 2 3/4 inches thick, 5¼ inches high.

Translations:

Facepiece: inside, left:
"Shoka" (Showa Cml. Ind. Co.)
right:
"13th Year of Showa (1938) For Organization B"

Canister: Center label:
Center label:
"Absorbent Canister of Organization Mk 1 (A) for Air Defense Gas Mask.
Yo
Manufactured 13th Year of Showa (1938)
Manufacture No. 11480
Showa Cml. Ind. Co., Oji, Tokyo."
Left label:
"This gas mask isfor air defense and will absorb air raid gases completely.
Use and Storage are same as on label on canister with Civilian Gas Mask, Type 2A, Modif. A (108).

Embossed, Front:
"Showa, 13" (1938)

back.
"Model A"

SECRET



108B-MASK, GAS, CIVILIAN, TYPE 2A, MODIF. B

108C-MASK, GAS, CIVILIAN, TYPE 2A, MODIF. C

General: The construction of this mask isthe same as that of Civilian Gas Mask, Type 2A Modif. B with the exception only of the outlet valve and the dimensionsof the canister.

Markings: Stamped and embossed characters on inside of facepiece and sides of canister; stamped characters and Arabic numerals on chin of facepiece; label on canister.

Weight: 2.65 lbs.

Description: Inside a molded channel on the facepiece the outlet valve-diaphragm housing is held and sealed by wire. The perforated metal guard screws on this housing. The valve seat is also molded as part of the facepiece and on this is fit the four tipped rubber valve.

The dimensions ofthe canister are: 5½ inches wide, 2 3/4 inches thick, 5 inches high.

Translations:

Facepiece: Inside, left:

"Shoka" (abbr. Showa Cml. Ind. Co.) also approval stamp of Home Ministry, Air Defense Research.

right:

"15th Year of Showa" (1940)

"For Organization B."

outside chin

"Practical Patent No. 221024

"Practical Patent No. 170514"

Canister: Center label:

"Absorbent Canister of Organization
M K 1 (B) for Air Defense Gas Mask.
Yo
"15th Year of Showa" (1940)
"Manufacture No. 104475
Showa Cml. Ind. Co. Oji, Tokyo."

Label, left and right:

Same as on label of Civilian Gas Mask Type 2A, Model B.

Embossed, fromt:

"Showa 15" (1940)

Stamped:

"Yo"

Home Ministry Air Defense Research stamp.

embossed, back:

"M 1 Model B. for organization."

RESTRICTED



108C-MASK, GAS, CIVILIAN, TYPE 2A, MODIF. C

108 D-MASK, GAS, CIVILIAN, TYPE 2A, MODIF. D

General: The construction of this mask is the same as that of Civilian Gas Mask, Type 2A, Modif. B, with exception of the outlet valve and the dimensions of the canister.

Markings: Embossed characters on inside of facepiece and sides of canister.

Weight: 2 lbs. 9 ozs.

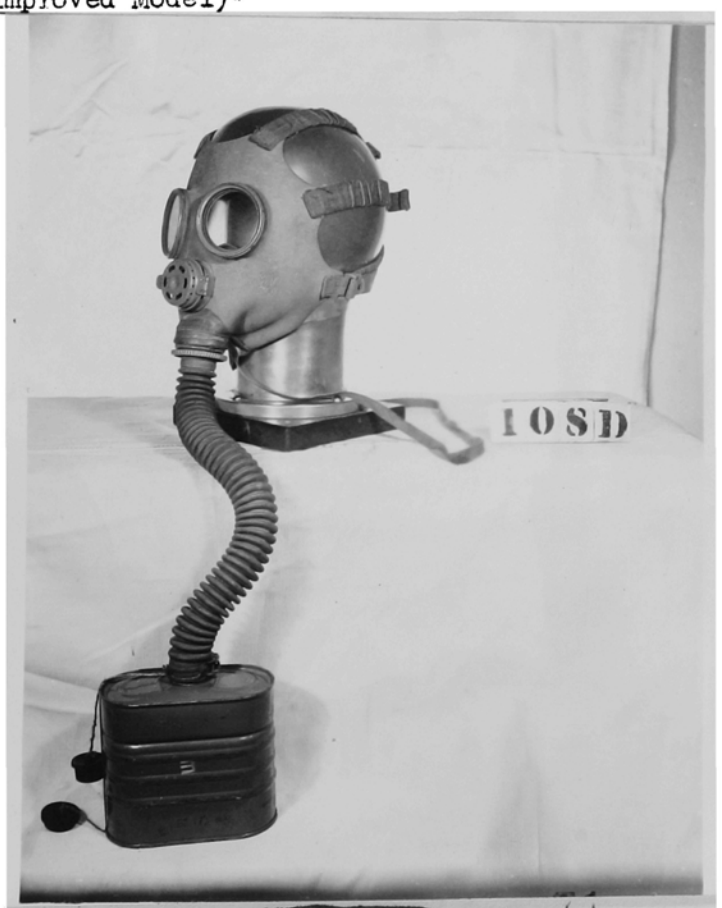
Description: The outlet valve-diaphragm assembly is constructed in the same way as it is on Civilian Gas Mask, Type 2A, Modif. C, (1080), but in this case the perforated guard is hinged rather than threaded.

The dimensions of the canister are as follows: 5 7/16 inches wide x 2 3/4 inches thick x 4 3/4 inches high.

Translations:

Facepiece; Inside left:
"Shoka" (Showa Cml. Ind. Co.)
left:
"17th Year of Showa" (1942)
"For Organization B"
"(Improved Model)"

Canister: Stamped front:
"Yo"
embossed, front:
"17th Year of Showa"
"Mark 1, Model A"
"(Improved Model)"



[redacted] 11



108F-MASK, GAS, CIVILIAN, TYPE 2., CUTAWAY SECTION

[redacted]



580A-MASK, GAS, CIVILIAN, 12TH YEAR, CUTAWAY

This mask is identical to Mask, Gas, Civilian, Type 2.., Modif. . (1o8..)

[redacted] 73

671-MASK, HOUSEHOLD, TYPE 2 A
671A

General:

Color: Light brown facepiece, brown canister.
Components: Facepiece, canister, head harness.
Weight: w/o carrier (671) .77 lbs, (671A) 1.1 lbs.

Description: The material used in the facepiece of both of these masks is the same as that used in the 2A Mask, Model B (108B), but it is shaped to resemble more closely the Model C (108C). The eyepieces are 2¼ inches in diameter in 671, mounted in brass frames closed with clips; 671A has 2-3/8 inch eyepieces in metal frames which are wired into sockets molded as part of the facepiece.

The outlet valve in both masks is a square rubber flutter type seated on the outer end of the outlet ducts. The housings are wired to sockets molded like the eyepiece sockets. The valves are protected by screw-on perforated guards (missing in 671).

The canister on 671 is 3¼ inches in diameter by 1⅝ inches high; it is wired to the base of the facepiece through which inhaled air passes into the tissot tubes which are molded as part of the facepiece.

The canister on 671A is a screw-on type, 4-1/16 inches diameter at the top and 3-9/16 inches at the bottom; it is 1⅝ inches high and has a screw-in socket 1⅝ inches diameter by 13/16 inches high. It screws onto the metal inlet valve housing which is wired to the base of the facepiece. The tissot tube arrangement is the same as for 671.

The head harness is composed of an elongated hexagonal rubber pad connecting 3 nonelastic, adjustable straps which are attached to the facepiece at five points. The three upper straps have rubber sections 3/4 inch wide, by 2-3/4 inches long sewed to the mask end of the straps, to supply elasticity.

Translations:

671 - Facepiece, inside stamped:
(abbr.for) "Nippon" (Chem. Industries)

671A - Embossed, inside facepiece, top of canister.
"15th Year of Showa" (1940)
"Household Type Mask"
"Showa Chem. Ind."
"Model A" (on canister only).

Stamped- on inside, facepiece and top of canister, stamp of Air Defence Research of Home Ministry. Outside, facepiece.
"Practical patent No. 221024
"Practical patent No. 170514"

Label on canister:
Left:
"Efficiency:
This gas mask will absorb completely a dilute gas in air raids."
Middle:
"Household absorbent canister (A) for Air Defense Gas Mask."
"Tested by the Home Ministry."

[redacted]

(yo)
"Manufactured in 16th Year of Showa" (1941)
"Lot No. 603824
"Tokyo, Oji. Showa Cml. Ind. Co. Ltd."
Right:
"How to use:"
"Take the stopper out and attach to the facepiece; then remove bottom plug."
"How to keep:"
"Put in both plugs and keep in a dry, cool place."



109-MASK, GAS, AIR DEFENSE, TYPE 16TH YEAR, MODEL A (CHILDRENS)

General: This mask is described in Japanese Chemical Warfare p. 6A. However four sizes, numbered from 2 to 5 were made, three of which, 2, 3, and 5 were available for study. The differences are noted in the table below.

	2	3	5
Color:			
Facepiece	pale olive drab	dark tan o.d. tape	dark tan
Headharness	dark tan	dark tan	dark tan
canister	olive drab	olive drab	brown
Markings:			
Facepiece	"2" outside, left chin, Jap char. on forehead "43" on forehead	"3" outside left, chin, Jap char. on forehead "209" on fore head Jap char on white label	"5" outside, left chin, Jap. Char on forehead "66D" and "IU" on fore-head Jap char on white label.
canister	Jap char on white label	Jap char on white label	Jap char. on white label
Components:	Facepiece, canister, headharness w/quick release buckles, plastic plugs for inlet and outlet ports.		
Weight: w/o Carrier	9 ozs.	.55 lbs.	.40 lbs.
Dimensions:	(width and height)		
eyelens	5½", 3"	5-1/8", 2-3/4"	4", 2½"
	(Diameter and height)		
canister	3-3/4", 1-7/8"	3-3/4", 1-7/8"	3-3/8", 1-5/8"
Base of canister to top of mask	6½"	6¼"	5¼"

Translations:

Forehead of all:

"6th Army Technical Research".

Label:

Type 16th year Air Defense Gas Mask	
Mask Model A	22
Army Technical Headquarters	
Fujikura**	16th year of Showa

**on #5 the manufacturing company's "Kyowa"

The rest of the label has instructions for use and care of the mask.

[redacted]



109-MASK, GAS, AIR DEFENSE, TYPE 16TH YEAR, MODEL A (CHILDRENS)

[redacted]

307-MASK, GAS, AIR DEFENSE, TYPE 17TH YEAR, MODEL B

General: Two types of the 17th Year Air Defense Gas Mask, Model B were examined and for convenience were numbered I and II.

		I	II
Color:	Facepiece-	Olive drab	Black
	Canister -	Chocolate Brown	Greenish-brown
Markings	Facepiece -	Black 3 inside right cheek	Black 3 inside right cheek
	Canister -	Black Japanese characters on white Label	
Components:		Facepiece, canister, head harness, outlet valve	
Dimensions:		7 in. high 7½ in wide	7 in. high 7½ in wide
Weight		14.5 ozs.	15.25 ozs.

Description: The style of the Type 17th Year Mask is quite similar to the Type 16th Year Mask, but the quality of material used is better in this mask.

Facepiece: The facepiece is made of a good grade of rubber, in the same general pattern as the 16th Year Type Mask. The rubber is 1/16 inches thick. All seams, inside and outside are covered with a tape of much thinner rubber, cemented inplace.

The window or eyepiece is a single section of plastic material about 5 inches across and 2½ inches high at the widest points, and is sewed and cemented to the facepiece on the inside. A white fabric tape is used between the plastic and the rubber of the facepiece to reinforce the seam and seal.

The outlet valve is crimped to the left cheek of the facepiece about one inch from the vision window and is protected by a perforated metal housing; the crimping flange is a seat for the rubber disc. A plastic disc, mounted in a plate of the same material in the outlet port of the canister and held in place by a plastic stud through the center, serves as the inlet. It is held in a closed position by gravity.

Head Harness: The head harness consists of two straps of the same material as the facepiece, 17 inches long which taper from 2 1/8 inches at one temple to 11/16 inches at the opposite cheek. These straps are stitched together 7 inches from the wide end to form a pad. The wider ends are split about 2 3/4 inches to add additional pull on the face piece to form a better seal when worn. The lower ends of the straps are passed through quick-release buckles attached to the facepiece with fabric strips in Type I and rubber in Type II; with these buckles the mask is adjusted to the face. The strips are sewed to the facepiece.

Canister. The canister is a lacquered cardboard cylinder 2½ inches high with a diameter of 3 3/4 inches. The inlet port on the lower side is 1¼ inches in diameter. Two plastic plugs are provided, one for the inlet and one for the outlet port, to protect the contents of the canister when not in use.

Translations: A white label was fixed around the circumference of the canister and was divided into three parts:

Part I

Gauged by the Home Ministry "Yo" (B)

Type 17 Year Air Defense Mask

Showa Chemical Industrial Co. August 1944*

Date of Manufacture Varies

Part II

1. This mask will never be used except for air defense purpose.
2. Always handle carefully, especially not to break the [illegible] absorbent canister, facepiece (eye glasses and glued parts) and expirating valve.
3. After adjusting this mask, take out plugs from absorbent canister, and try to breathe, covering the bottom hole with the hand, to check if the mask is air tight or not.
4. After using, wipe inside of the facepiece with a moist towel, and when it is dried, replace mask in the bag.
5. To preserve, keep in a dry, cool, and not dusty place. Keep from direct sunlight.
6. In cold weather apply a soap solution to inside of the [illegible] eyelens as anti-dim before wearing.

Part III

Distribution Service
Greater Japan Air Defense
Association, Foundation

Remarks: This mask has been found bearing manufacturing dates in the 18th and 19th Years of Showa, or 1943 and 1944. It was probably in general use for civilians.



307-MASK, GAS, AIR DEFENSE, TYPE 17TH YEAR, MODEL B

307A-MASK, GAS, AIR DEFENSE, TYPE 17TH YEAR, MODEL A

General: This Model is related to the Type 17th Year, Model B exactly as the Model A is to Model B of the 16th Year, Type Mask. It was made in four sizes numbered 2 to 5 of which three sizes were available for study. Of the Type I, or Olive Drab Type, numbers 2, 3, and 4 were studied; an additional type II, or black type in size 3 was on hand.

	I, 2	I, 3	I, 4	II, 3
Color: Facepiece	Blue Green	Olive drab	Olive drab	Black
Canister -	Brown	Brown	Brown	Brown
Carrier -	Tan	LightBrown		
Markings Facepiece -	"2" inside right cheek approval stamp of Home Ministry, inside	"3" inside right cheek; approvalstamp of H.M. inside left cheek; Jap. Character outside fore-	"4" inside right cheek	"3"inside right cheek approval stamp, H.M inside left cheek
Canister -	label stamped on top "6th" Army Technical Research "No. 61" painted on bottom.	Label stamped on top; "6th" Army Technical Research	Label stamped	Label stamped on top: "6th"Army Technical Research"
Carrier -	Label	Label		
Components:	Facepiece, canister, head harnessw/quick-release buckles. carrier (cylindrical cardboard box.)	carrier (cylindrical) cardboard box)	———	———
Dimensions: eyelenses (width, height)	5 3/4" x 2 3/4in.	5 in. x 2 5/8 in.	4½ in. x 2½"	5in x 2 3/4 in.
Canister (diameter, height)	3 3/4 in x 1 3/4 in.	3 3/4 in. x 1 5/8 in.	3¼ in x 1 5/8 in.	3 3/4 in x 1 5/8 in.
base of canister to top of mask,	6 7/8 in.	6¼ in.	6 1/8 in.	6 1/8 in.
Carrier (height, width) Carrier	7 1/8 in. x 4½ in	6 7/8 in x 7 5/8 in.	———	———
Weight: Mask -	11 ozs.	11 ozs.(light)	9¼ ozs.	10.4 ozs.
Carrier -	2 3/4 ozs.	2.1 ozs.	———	———

[redacted]

Translations:

Label on canister: Same as on 17th Year, Model B, except marking indicating these masks to be Model A, and dateline.

The dates:

I, 2 -"3rd Month, 19th Year."
I, 3 -"9th Month, 18th Year."
I, 4 -"2nd Month, 18th Year."
II, 3 -"1st Month, 20th Year."

Labels on Carriers:

(A) Number 2
No. 61
Nippon Rubber 18th Year of Showa

(A) Number 3
Army 6th General Laboratory Section
Nippon Chemical Industry 18th Year of Showa

Remarks: This mask is apparently a children's mask. The smaller the number, the larger the size of the mask.



[redacted]

347A-MASK, GAS, CIVILIAN, WIDE VISION TYPE

General:

Color:	Canister - Chocolate Brown Facepiece - tan.
Markings:	Embossed Japanese characters and Arabic numerals on canister bottom.
Components:	Canister and cap, outlet valve, facepiece.
Weight:	Canister and cap, outlet valve, facepiece.

Description: Canister: The canister is cylindrical in shape, 3 1/2" long. A disk shaped projection from the bottom of the canister 2 1/2" x 1/2", has eight perferations around its periphery. This is the air inlet. The neck of the canister is threaded, 1-5/8" in diameter and screws into the base of the mask. When the mask is not in use, the canister can be preserved by screwing a cap on the neck.

Outlet valve: The outlet valve, projecting from the base toward the wearer's neck at right angles to the canister, is the same type common to the majority of Japanese gas masks. The top, perferated around the top and side, unscrews. Inside a piece of thin rubber covers the hole. The valve is 1-1/2" in diameter and 3/4" thick.

Facepiece: Different from most masks, this section is almost all one big eye-piece. Made of transparent plastic, the oval shaped eye-piece extends up four inches from the base of the mask and measured five and one-half inches from side to side. The rest of the facepiece is made of stockinette rubber. The head straps one from the top of the mask and two from each side are half cloth, half elastic, and are all sewed to a 2" x 4" piece of rubber that fits against the back of the head. The facepiece is secured to the base by a 1/2" rubber band.

[redacted]

[redacted]



347A-MASK, GAS, CIVILIAN, WIDE VISION, TYPE

[redacted]

674-MASK, GAS, CIVILIAN W/HOOD

General:

Color: Brown except inside facepiece and hose which are olive drab.

Components: Facepiece, hood, hose, canister.

Weight: 3 lbs. 2 oz. (w/o carrier).

Description: The facepiece is of rubberized fabric cut and sewed to shape. Wired to the facepiece is a metal valve housing from which extends to the rear of the outlet valve seat on which is the rubber , four tipped outlet valve, protected by a perforated metal screw-on guard.

The hood which is sewed and cemented to the facepiece is of rubberized fabric, bell shaped, about 18" high and about 43" in circumference at the base. There is no headharness but a 44 inch long web strap is sewed to the hood for tightening around the neck.

The hose is a 10 inch length of corrugated crepe rubber tubing connected to the valve housing by a screw-on coupling, and to the canister by a wing nut clamp.

The canister is of the civilian Air Defense Type, 5½", 2-3/4", 5½". A 1 inch inlet part in the bottom can be closed with a rubber plug.

Remarks: The home ministry stamp (Ǝ) would indicate that this mask was probably designed for decontamination by civilian units.



387-RESPIRATOR, CIVILIAN DUST

General:

Color:	Facepiece Black, Canister Brown.
Components:	Facepiece, canister, headnet.
Weight:	.5 lb.

Description: The facepiece is similar to an aviator's mask in that it covers only the nose and mouth. It is pear shaped and made of thin black rubber. A thin piece of wire is used to weigh down the section of the facepiece which fits over the bridge of the nose. A small outlet valve is attached to the underneath side as worn.

The canister, connected directly to the front of the facepiece, is made of thin metal painted brown. It is 1½" high and 3" in diameter. The cover may be unscrewed to reveal the mechanical dust filter which is activated charcoal packed in a small perferated container. Between this container and the facepiece is a layer of cotton shoddy held between two thin wire screens

A headnet made of fine black netting is provided for holding the dust respirator in place. Lined with felt, it is attached to the sides of the facepiece by two cloth straps.

Remarks: This respirator is typical of those finding wide industrial use in Japan.



RESTRICTED

680-RESPIRATOR, DUST

General:
Color: Dark brown
Components: Nosepiece, Filter
Weight: 1 oz. (25 grams)

Description: This respirator is just a mechanical filter, 3½ inches wide, 2 inches thick, 2 inches long. The nosepiece is constructed of rubber, molded in a shape which may be described as roughly parabolic, or as resembling a large rounded nose. It fits over the nose and extends just below the mouth, but there is no real seal there. Arubber partition and the base, in which a hole is cut, form a receptacle for the filter.

The filter consists of a brush of four rows of tufts of bristles set in a black base, probably of hard rubber. The outer rows have 12 tufts in each while the two center rows have 13; the tufts are alternated for maximum filteration. A bit of absorbent cotton was found set on the brush as an additional filter.

On either side of the respirator is a rubber flap in which is a reinforced hole provided for a string or elastic with which the device is held to the wearer's head.

Remarks: This respirator could find only limited use in cases wherein the object would be to prevent dust or large particles from entering the wearers' nose or mouth. It would afford no protection against chemical agents.



[redacted] 87

[redacted]

RESPIRATOR DUST, NO. 2

General:
Color: Gray and black head harness
Components: Facepiece, Outlet valve, Filter arrangement, Head harness, Packing boxes.

Description: The facepieces are constructed of a heavy, soft, gra rubber material molded to fit the contour of the face over the mouth and nose. A four inch strip of red sponge rubber is attache to the top, inside, to further seal the mask. The facepiece, roughly in the shape of a truncated cone narrows down to a flattened round surface 1-7/8" diameter, which seats opposite the wearers mouth. This surface is perforated by seven inlet holes 7/16" diameter; beneath this surface is a ½" space filled with a cotton sponge filter which is held in place by a white plastic spacer.

A 3" rubber flutter-type outlet valve fits over a short 5/8" tube which is integrally molded with the facepiece at its base. Two auxilliary outlet ports are attached to the upper part, approximately 1-3/4" on each side of the center apis of the facepiece. The valves closing these ports are the rubber disc type, and are protected by stamped light metal caps.

The head-harness is composed of black rubber tubing and black elastic ribbon, equipped with slides for adjusting. There are two straps: one fits over the back of the head and abov the head and above the ears; the second fits around the neck; bot have a metal hook at each end which attach to plastic plugs, shaped like collar buttons, fitted two to each side on the facepiece.

The packing carton is 3 inches high, 4 inches long, and 4⅛ inches wide.

Translations: Label on top of carton (in English)-"No. 2 Dust Mask T.S.S."

Trade Mark in Japanese "S.T.S., Utility Model No. 22/802, Shigematsu Factory, Tokyo".

Label on side of carton:
Caution: After using the dust respirator, take the sponge part and put it in clean water or neutrilizing agent and wash carefully. In case a neutralizing agent is used, follow the instructions included. (Note; a direction sheet was inclosed, but was not translated because of its length.)

Remarks: A number of these respirators were recovered in a Japanese Quartermaster Depot in Seuol, Korea, still in their original containers and in good condition. A report, dated 28 Oct. 19[illegible] on this item was submitted through the Chemical Office Hq. XXIV Corps, AFO 235, to Chief, CW Service Washington, D.C., and from the material in the account, this reported was drafted.

Photograph shows respirator with head harness pulled forward for display and carton container showing labelled sides.

[redacted]



RESPIRATOR , DUST, NO. 2

RESPIRATOR, DUST, NO. 2

d.) Animal Gas Masks

Most of the gas masks for animals were made of a coarse fabric, burlap, cut to generally fit over the animals nose and mouth. This fabric had to be treated with a solution of chemical before the mask could afford any protection. Although crudely constructed, these masks would probably do the task for which they were assigned.

It is interesting to note the variety of animals for which masks were designed.

[redacted]

521-MASK, GAS, CAMEL

General:

Color:	Tan burlap and green rubber
Dimensions:	24" long, 8" in diameter
Weight:	1.8 lbs.

Description: The mask is shaped like a sleeve, open at both ends. The main portion of the mask is made of several layers of burlap although the forward section and a cushion around the back are made of rubber. The forward section is 9" long and of the same diameter as the rest of the mask. It has one seam along the bottom, and one end of a 7" rubber strap is stitched to the top. The burlap section, 13" long, has one seam, a continuation of the rubber seam. The cushion which is a section of rubber, two inches wide is sewed to the inside of the burlap, but it does not quite reach all the way around the mask. A four inch gap left by the cushion and a "V" cut six inches into the burlap is covered by an 8" triangular rubber fly. Over the vertex of the fly, a 3" equilateral triangular rubber reinforcement holds a buckle which fastens to the harnes To put in use, the rubber forward section gathered together and one turn of the strap secures it and this resembles a string tied around a paper bag. The mask is held to the animal's nose by tightening a 12" rubber strap with ten holes and a metal buckle. To facilitate quick protection and still make it possible for the animal to breathe, the mask may be left on. The forward section is united and folded back over the mask and secured with two snaps.

Remarks: The mask has no canister and valves. It must be impregnated with a decontaminating solution to be effective.

[redacted]



521-MASK, GAS; CAMEL

[redacted]

520-MASK, GAS, COW

General:

Color:	Tan burlap and green rubber fittings.
Dimensions:	20" long, 10" wide.
Weight:	2 lbs.

Description: This mask is similar to the Japanese camel mask-item #521. It is shaped like a sleeve, open at both ends. The main portion of the mask is made of several layers of burlap, but the front section and the cushioned rear section are made of rubber. A cloth bridle holds the mask in place, and a rubber strap buckles the top end tightly around the cow's nowe. The rubber front is gathered together and secured with a rubber strap that is sewed in place, resembling a string tied around the top of a paper bag. A black plastic outlet valve set in a built-up rubber base is located in the bottom of the front section. The valve housing is 1-3/4" in diameter and 1" thick. It has a circle of eight perferations around the top and, inside, covering the hole when the animal inhales, is a thin piece of rubber. To facilitate quick protection and still make it possible for the cow to breathe directly, the mask may be left on; the front portion is untied and folded back over the mask and secured with two snaps.

Remarks: For effectiveness the mask must be impregnated before use.



377-MASK, GAS, DOG AND SHOE LEGGINGS

General:

Color:	Beige
Markings:	None
Contents:	Dog mask and leggings
Dimensions:	9" high, 7" wide, 4½" thick
Weight:	2.1 lbs.

Description: The carrier is of beige colored cloth lined with light rubber. It is closed by two flaps, the outer one completely covering the top and fastened to the front of the carrier by a ½" wide cloth string which is knotted. On the underneath side of the inner flap is a pocket containing a small black bottle of anti-dim. Inside the carrier a large flap separates the leggings from the mask. A carrying strap of cloth is attached to the carrier.

The gas mask conforms well to the shape of a dog's head. It is made to cover both nose and eyes. The part covering the nose is made of burlap. At the front on the left side, as worn, is the outlet valve, painted black and having a 1-3/4" diameter. The eyeshield, made of plastic glass, is braced by a large section of rubber sewn to the burlap. A black rubber cushion is inside the opening of the mask, providing a tight fit against the front of the dog's neck and around his jaws and head. Various straps are provided for fastening the mask to the dog.

In a small rubber bag, closed with a pull-string, are the four shoe leggings for the dog. These made of rubber are 4 inches high. The collapsible legging is directly sealed to the shoe, which is 3½" long by 2-3/4" wide. Buckles and straps are provided for tying the leggings to the dog's leg.

Remarks: The mask must be impregnated before use to be effective. [redacted]



377-MASK, GAS, DOG AND SHOE LEGGINGS

[redacted]

MASK, GAS HORSE

General:
Color: Brown
Components: Carrier, Mask, Goggles

Description: The carrier is made of coursely woven brown cloth. There are twelve metal eyes around the top of the carrier through which passes a draw string. The top flap of the carrier is secured by a strap which fastens to a buckle on the front of the carrier. The carrier is attached to the pack saddle by the four webbing str that are attached on the carrier.

The mask is a green cloth bag approximately 16 in. long and appears like a horse feed bag. The canister unit is contained in the lower seven inches of the bag, and the horse's nose fits into the upper part. The mask was constructed to fit over bo jaws. The canister is cylindrically shaped and has a circle of he wire at each end over which is secured chicken coop wire netting to hold the absorbent in place. The absorbent material consists of several flat cakes of synthetic cellulose sponge material. Ther is a thin green cotton cover, lined on the inside with waterproofe fabric, that hooks over the wire loop on the bottom and extends up the length of the mask. The upper part of the canister has a metal with an opening about the size and shape of a large heel, which is covered by a rubber inlet valve. A large outlet valve is held in an oblong metal frame on the under side of the mask just above the canister, and there is a small auxillary outlet valve arrangement on the top. There is a two inch, yellow, felt strip sewn all around the top edges of the mask. There are five cotton web straps at the top of the mask to hold it on to the bridle.

The goggles are yellow-tinted cellulose acetate lens in the deep leather rims. The two eyepieces are connected by a coil wire spring which provides the necessary tension to hold them in place on the horse's head. The part of the rim that comes in contact with the skin around the horse's eye is shaped to fit the head structure and is padded with brown felt. A leather strap is sewed on the side shade of each goggle. The diameter of each goggle is 4½ inches.

Remarks: The information for the above report was taken from "Weekly Report of Investigation of Japanese Chemical Warfare", Hq. XXIV Corps, APO 235, San Francisco, EEIST (Cml Sec) G-2, dtd 9 Dec. 1945. This item was found in Korea.

DECLASSIFIED



MASK, GAS HORSE

[redacted]

379-MASK, GAS, HORSE (NEW)

General:

Color:	Tan
Markings:	None
Contents:	Facepiece, outlet valve, and carrier.
Dimensions:	9" long, 9" wide, 7" high.
Weight:	2.7 lbs.

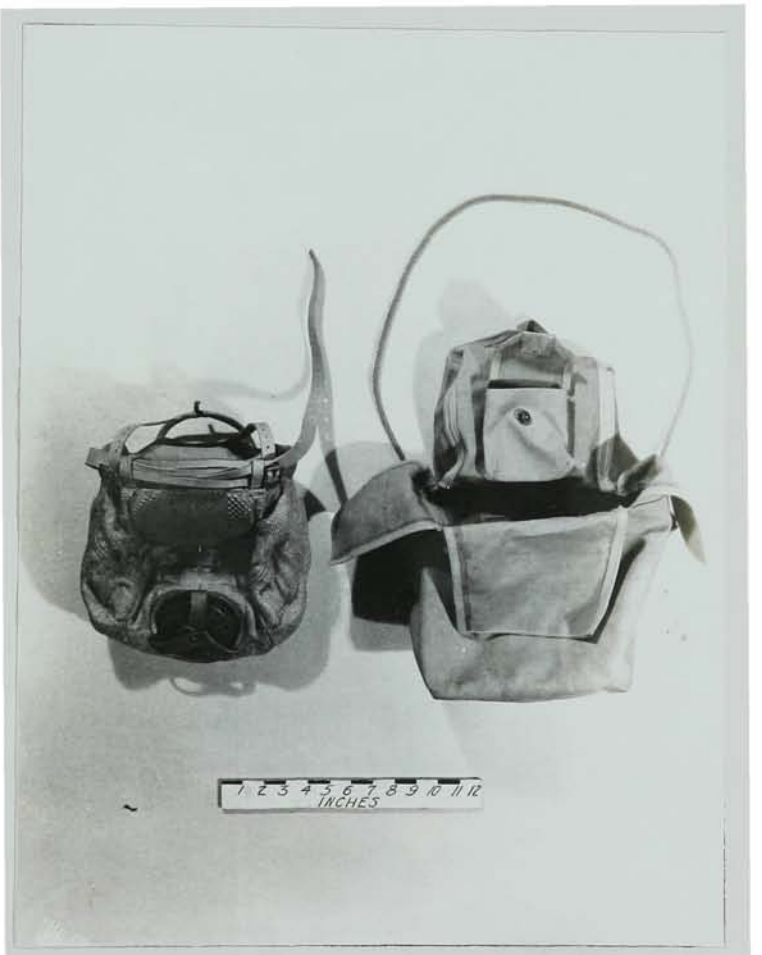
Description: Carrier: The carrier is made of tan-colored cloth, seamed along the edges and provided with a brown rope carrying strap. The cover for the carrier is of the common pull-over type and is attached to the carrier by a green buckle. On the back of the carrier are three belt loops, one placed equally distant between and below the other two. Three fold-over flaps are directly beneath the cover and a pocket for carrying an extra outlet valve is on the inside of the cover. Rubber tape covers all seams on the carrier.

Facepiece: The mask looks like a small collapsible type bucket except it is rectangular instead of round. The body of the mask is composed of heavy brown burlap with inch wide ridges running parallel to the length of the mask. Inside the mask are small rubber brackets supporting the ridges and around the inside of the mask are three rubber strips covering all but one side of the mask. At the top of the mask is a heavy rubber roll used as a cushion. Just inside this roll, extending inward toward the center of the mask, is a circular piece of thin black rubber which fits against the horse's nose. A heavy rubber section 5" long x 5" wide takes the place of the burlap on one side of the mask. Attached to the top of the mask are various straps for fastening it to the horse's nose.

Outlet-valve: The outlet-valve which sits in the bottom of the mask is painted olive drab and is 3-3/4" in diameter. The top may be raised to reveal an ordinary black rubber filter. Three small rubber straps, which may be snapped to the mask when not in use, are provided for holding the outlet valve in place by snapping over a small rivet in the center of the top of the outlet valve.

Remarks: The horse gas mask is made effective by dipping it into a decontaminating solution periodically.





379-MASK, GAS, HORSE (NEW)

[redacted]

e.) Canisters:

No tests were made on the efficency of canisters and all judgments are made on the basis of the quality of materials and construction, and the information given on the labels of the canisters.

The canisters are made on the general pattern of oval shape of corrugated sheet metal, brass, or aluminum and are usually soldered at the seams. The sizes and weights vary according to their respective purposes. Special canisters have been made for about all types gases and according to effieiency data obtained from labels, they are for the most part effective.

Some of these canisters are for use with the masks reported in the preceding sections.

[redacted]

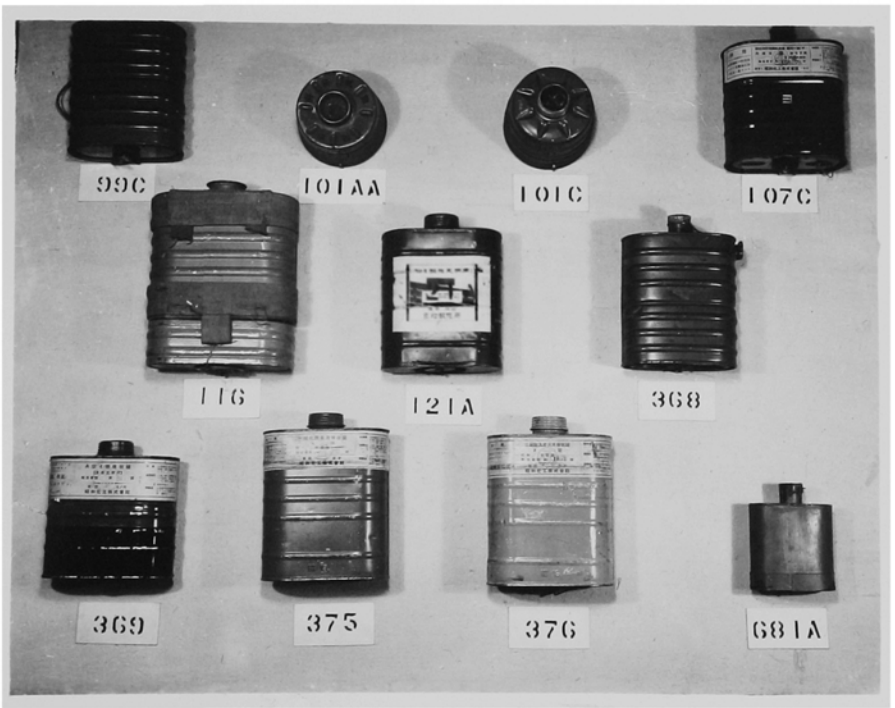
MISCELLANEOUS CANISTERS

These canisters were recovered separately. The nomenclature has been given to include use and indicates gas mask type when possible

Item No.	Nomenclature	Color	Markings	Dimensions	Weight	Remarks
99-C	Canister for Mask, Gas, Army, Type 95	Olive drab	Red characters on side "Nippon Cml. Co." "(Military Secret)"	5-3/4" long 5" wide 2-5/8" thick	1 lb. 9 oz.	Canister can be used on any mask having small clamp connecting hose
101AA	Canister, Experimental type for mask, Gas, Army assault	Olive drab	Red and Black characters on top "Military Secret"	2½" long 3½" diameter	13½ oz.	Canister is cylindrical in shape
101C	Canister for Mask, Gas Army Assault	Olive drab	Red characters on top "Military Secret"	3" long 4" diameter	13½ ozs.	Canister is cylindrical in shape
107C	Canister, For mask, Gas Civilian Type 1	Brown	Japanese characters on a label on the side	5-3/8" long 5½" wide 2-3/4" thick	1 lb. 10½ ozs.	Translation: "Will absorb any agent expected to be used"
116	Canister for Mask, Gas Navy, Type 93 No. 2	Gray	Japanese characters embossed on top	7½" long 6¼" wide 2-3/4" thick	3 lbs. 10 ozs.	This unit has the canister addenda for CO protection
121A	Canister No. 4 for acid gas (commercial)	Blue-Gray	Japanese characters on label on side. "Shigimatsu Mfg. Co."	6" long 5⅛" wide 2-5/8" thick	1 lb. 8 oz	Has a metal screw plug in bottom (inlet)
368	Canister for AC mask	Olive drab	Japanese characters in red on top. "Nippon Cml. Co." "Military Secret"	5-3/4" long 5" wide 2-5/8" thick	2 lbs. 3½ oz	Has a bright blue band near top, metal screw in plug on side metal detector strip.
			[redacted]			

MISCELLANEOUS CANISTERS (CONT)

Item No.	Nomenclature	Color	Markings	Dimensions	Weight	Remarks
369	Canister for Phosgene Bromine, Iodine, and chlorine	Black & gray	Characters on label on side, "Showa Cml. Ind Co."	5-1/8" long 5½" wide 2-5/8" thick	1 lb. 12-3/4 oz.	Translation: "Do not use when concentration of gas is more than 4% or when there is an oxygen deficiency.
375	Canister for carbon monoxide	Red	Characters on label on side "Showa Cml. Ind. Co."	6½" long 5-3/8" wide 2-5/8" thick	2 lbs. 5 ozs.	Translation: "Do not use when CO concentration is more than 4% or when O2 is deficient, Can be used for 4 hours in concentrations under 1 %
376	Canister for Sulphur Dioxide	Orange	Characters on label on side "Showa Cml. Ind. Co.	6½" long 5-3/8" wide 2-5/8" thick	2 lbs. 3½ ozs.	Translations: Used for sulphur dioxide protection
681	For pilots Gas Mask	Olive drab	None	3-5/8" long 3½" wide 1-3/4" thick	13 oz.	Canister is poorly made.



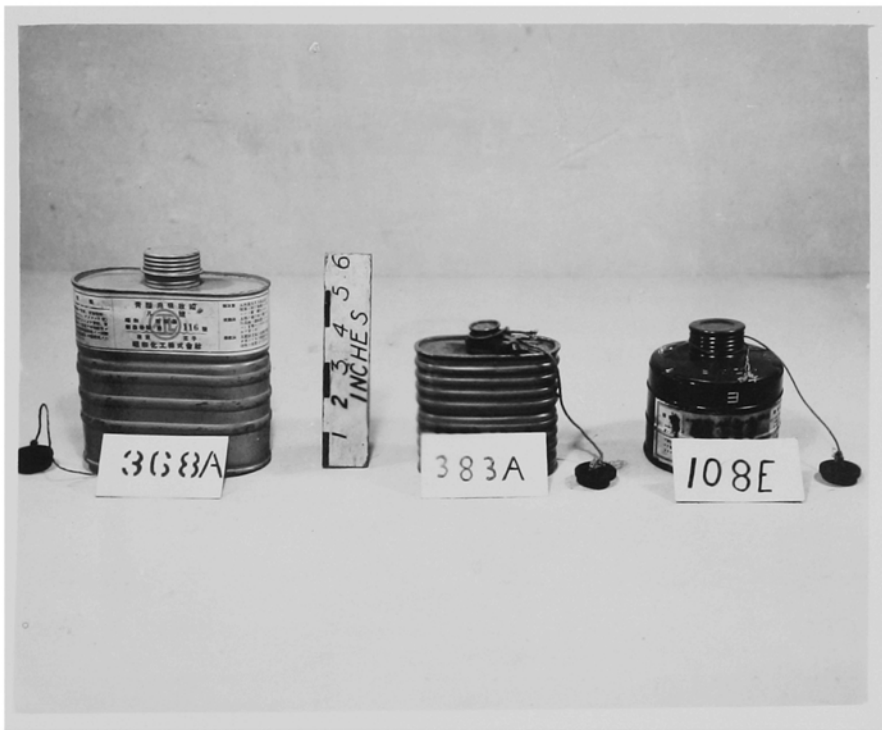
MISCELLANEOUS CANISTERS

[redacted]

ADDITIONAL MISCELLANEOUS CANISTERS

Item No.	Nomenclature	Color	Markings	Dimensions	Weight	Remarks
108E	Canister For Mask Gas, Civilian, Type 2A(For use on Mask,Gas,Civilian Type 2A.	Brown	Characters embossed on top:"17th year of Showa.Nippon Rubber (Co.) Mk 2, Model A, for (civilian)org-anization" Side: "3" (Yo) Home Minister stamp, Label with instructions manufacture, etc.	Diameter: 3-7/8" Height: 3-1/8"	1.05 lbs.	Canister is cylindrical. Has a screw on cap for closing when not in use.
368A	Canister for AC mask	Blue	Embossed in back: "Showa Chem.Co. Seal Label with instructions efficiency data, manufacturer,etc."	Length: 5-3/8" Width: 2-11/16" Height: 5-3/16"	2.33 lbs.	According to label: "Its effective against HCN and CN agents; it is not effective when density exceeds 4% or where oxygen is insufficient".
383A	Canister for aviator gas Mask (item 383)	Olive Drab	Embossed on top: seal of Nippon Cml. Co.	Length: 4". Width: 1-15/16" Height: 3-5/8"	0.53 lbs.	Has wingnut clamp for attachment to loose.

[redacted]



ADDITIONAL MISCELLANEOUS CANISTER

RESTRICTED

f.) Accessories

Japanese masks are equipped with numerous accessories which allow for the masks to be used with maximum efficiency, anti-dim compound, anti-dim disks, anti-freeze solutions and applicators, waterproofing clamps, and optical lenses are among the more common accessories, which may be found with most of the later service masks in pockets provided for them within the carriers.

Other types of accessories were still in experimental stages. Outstanding among these are the various waterproofing hose and clamp attachments for attachment to canister inlet to allow submerging of canisters in water as in fording bodies of water.

[redacted]

602-ATTACHMENT , TYPE 100 WATERPROOFING CLAMP AND HOSE

General:

Color:	Green
Markings:	Japanese characters in black
Components:	Carrier, hose, clamp, intake valve, head strap, spare parts.
Weight:	1.2 lbs.

Description: Carrier: Is constructed of pale green, light weight duck, 7" x 5" x 2½". Japanese characters are stamped in a vertical line on the outer, front side. A pocket on the right interior contains the spare parts box. Flaps on both pocket and carrier fasten with a single button. For convenience in carrying, there is a strap on the back that buttons over the wearer's belt.

Hose: The corrugated crepe rubber hose is divided into two 12" sections. Each section is attached to a 2½" black hard rubber coupler. A tight green rubber band secures the joint. Another short length of corrugated rubber hose couples together the intake valve and a plastic "goose-neck". The connection is made air tight by a rubber washer.

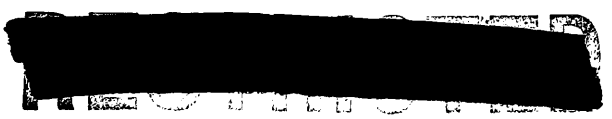
Intake valve: The perforated top of the valve, 2" in diameter and 2" high, unscrews revealing a black rubber flutter valve covering the intake hole.

Head strap: The strap holds the "gooseneck" close to the wearer's head. Two plastic sections and a buckle make it adjustable.

Spare parts: A black cardboard box contains:

Suspending string	1 each
Hose Pinch-Cock	2 each
Valve	1 each

Remarks: The attachment makes it possible for the wearer to move through water by raising the intake valve from the bottom of the canister to approximately eye-level.





802-ATTACHMENT , TYPE 100 WATERPROOFING CLAMP AND HOSE

[redacted]

381-ATTACHEMNT, EXPERIMENTAL WATER PROOFING CLAMP AND HOSE

General:

Color:	Beige carrier, greenish brown attachment.
Components:	Carrier, intake valve, hose, head strap, clamp, spare parts.
Weight:	1.2 lbs.

Description: Carrier: The carrier is made of cloth and has an ordinary flap cover which buttons to the front of the carrier. Its dimensions when empty are 9" long x 7" wide. In the lower right hand corner on the front of the carrier is a light tan-colored patch containing the abbreviations "No." and Arabic numerals. Inside the carrier is a small pocket for a box of spare parts.

Intake valve: This valve is the same as that used by the type 100 waterproofing attachment. It is 2" high and 2" in diameter, painted olive drab, and perforated around side and on top. Inside is a black rubber air filter. It is attached to the head strap and hose by a green "goose-neck".

Hose: The corrugated, crepe-rubber hose is divided into two one foot sections. Each section is attached to a 2½" black rubber coupler. One end of the hose connects with the "goose-neck" while the other end connects with the clamp.

Head strap: The head strap is attached to the "goose-neck" by a loop sewn to the strap. Half of the strap, adjacent to the goose-neck, is made of rubber, the remaining half consists of a cloth covered elastic band. A loop buckle provides a way of tightening the head strap.

Clamp: The clamp is a piece of oval-shaped rubber which slides over the bottom of the field-type Japanese canister. The hose inlet is in one end, inside the clamp, and several small round rubber plugs extend upward from the inside bottom of the clamp. On each of the clamp's four sides is a small rubber flap. Extending around the edge of the clamp is a metal strip which, by means of a fastener, affixes the clamp tightyly to the canister and holds it in place.

Spare parts: A small cardboard box carried in the small pocket inside the mask contains the following:

Suspending string	1 each
Hose pinch cock	2 each
Valve	1 each

[redacted]

381-ATTACHMENT, EXPERMENTAL, WATERPROOFING CLAMP AND HOSE

Remarks: The water proofing attachment is used in the same manner as the type 100.

This model was in the experimental stages of development. It was never put to tactical use.



[redacted]

381A-ATTACHMENTS, EXPERIMENTAL TYPE WATER PROOFING CLAMP
381B AND HOSE
381C

General: These attachments are generally the same as Item #381, except in the construction of the air intake housings.

	A	B	C
Color	Olive drab, black canister connection.	Olive drab, black canister connection.	Olive drab, black canister, connection
Markings	Jap char. on head band and clamp	Jap char. on clamp	Jap char. on foot & clamp
Components	Clamp, head band hose, goose neck tube, inlet housing.	Clamp, hose, head band, intake housing.	Clamp, hose, intake housing floating bladder.
Weight	1 lb.	14 ozs.	1.6 lbs.

Description: A: The gooseneck and intake valve are roughly the same as the Type 100 waterproofing attachment (602). However the gooseneck is more of an angle tube terminating in a cylindrical metal housing 2 inches x 5/8 inch. The intake valve housing, which contains a loose bladder valve, is connected by a short length of corrugated rubber tubing. The intake valve housing is 2¼ inches x 1½ inches. The clamp for attachment to inlet side of canister is identical to that in 381.

B: The intake housing is bullet-shaped, 3-1/8 inche x 1-3/4 inches, the tip being open, and attaches to a flat sectio of metal from which a 1¼ inch metal tube extends as the hose connection. In the housing is a piston-like valve. The head band attaches to the hose-connecting tube. The clamp for attachment to the inlet side of the canister is identical to that in 381.

C: The valve housing is a 2-sectioned cylinder, 2 inches high, 1-3/8 inches diameter and contains a loose bladder type rubber valve. It is connected to a 7 inch section of 3/4 inch brass tubing, weighted on the opposite end, by a flat oval housing 2-3/8 inches x 1½ inches x 3/8 inches. Midway on the tube a 7½ inches rubber bladder, inflated orally is attached to wire loops, soldered to the tube. One inch below this, a 1 inch connection for the hose is located. There are four 12 inch sections of hose. Two of the three connections have wired couplings, the third has a screwed coupling.

Translations:

A- Headband-
"Scientific Research Experimental Type"
Clamp-
"Scientific Research"

B- Headband-
"Scientific Research"

[redacted]

381A-ATTACHMENTS, EXPERIMENTAL TYPE WATER PROOFING CLAMP
381B AND HOSE (CONT)
381C

C-Bladder float-
"Scientific Research Experimental Type for Mk 3"
"11th Year of Showa" (1936)
Clamp-
"Scientific Research Experimental Type"

Remarks: All of these devices are attached to the inlet end of canisters. The inlet valve housings in types, A and B are held to the mask wearer's head by means of the bands tied about the valve housing. River or high water crossings can be made while wearing mask with one of these attachments connected to canister inlet even though canister is below the water level.



418-TUBE, OXYGEN GENERATOR

General:

Color:	Tinned metal
Markings:	The letters CCW are stamped in the outside metal wall.
Components:	A large metal canister containing the oxygen producing charge and a smaller metal canister joined to it which contains the various filtering elements.
Dimensions:	Overall length 27", Diameter of large section 2.7", Diameter of small section 2".
Weight:	10½ lbs.

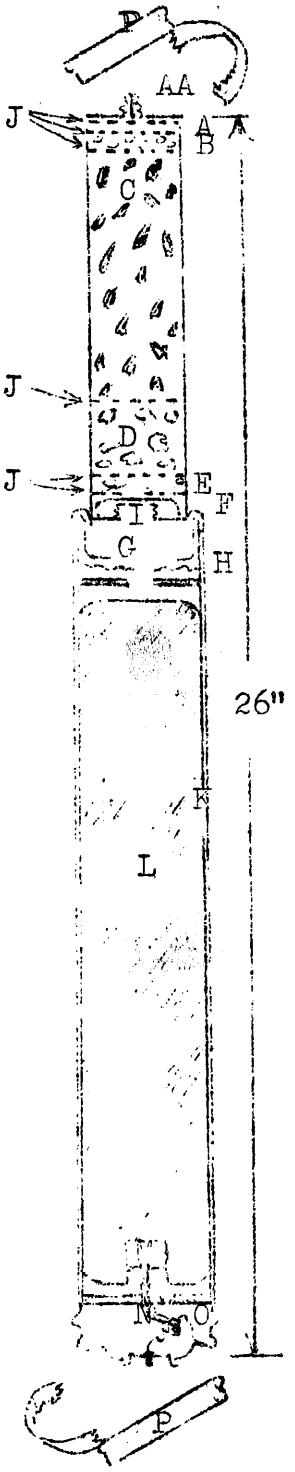
Description: The generator is formed by two thin walled metal tubes joined together and soldered. In operation oxygen gas is generated in the larger tube and is forced under its own pressure thru the smaller tube where it is filtered and expelled through the nozzle (AA)-(see diagram). Where the two tubes join, the opening (I) is covered by the inverted metal cup (F) in the sides of which are two ports. This arrangement operates as a pressure regulator. The gas pressure in the lower canister (see diagram) tends to force the cup upward compressing the filter medium above thus decreasing its porosity and correspondingly increasing its resistance to gas flow. The gas is filtered thru rock wool (G) fiber glass (E) granular calcium chloride (D) coarse charcoal (C) granular calcium chloride (B) and finally a cotton batt (A). The filter mediums are separated by floating discs of 17 mesh wire screen (J). The gas generating charge (L) is packed in an asbestos liner (K) and is separated from the ignition well (see detail) by the steel plate (R). An igniting mixture of undetermined composition and a fuse are attached to the bottom of the generating charge. The fuse (N) is attached to an igniter (O) which is electrically fired by the short circuiting of the wire coil (W). The canister forms one pole of the circuit. As recieved, both ends of the generator were sealed with metal covers soldered and joined with metal tape. The generating charge determined under brief analysis showed the following composition

Water soluble (KClO3)	80%
Water Insoluble	
Powdered iron	9%
HCl insoluble (Mineral fiber)	2%
Other (Mn present)	9%

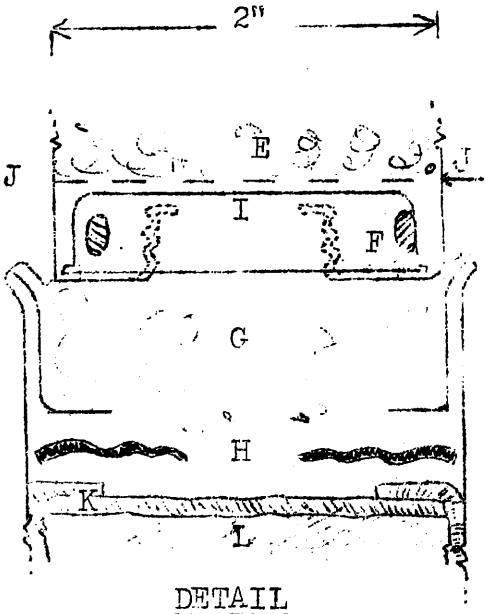
Remarks: KClO3 in the presence of Mn will yield its oxygen when heated to proper temperature. Powdered iron will burn in an atmosphere of oxygen and release sufficient heat to maintain the reaction. Noxious gases formed would be adsorbed in chemical filter sections.

This generator was not performance tested but it appears to be theoretically sound, however as burning operation concumes oxygen, efficiency of this unit would be low. This unit is apparently used in an airplane or submarine.

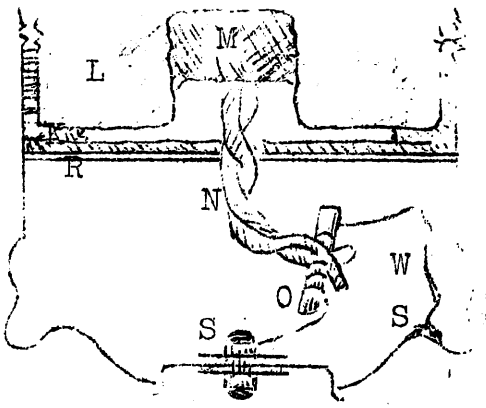
AA- Outlet Nozzle
A- Cotton pad
B- Calcium Chloride
C- Charcoal
D- Calcium Chloride
E- Fiber Glass
F- Inverted Cup
G- Rock Wool
H- Crimped disc
I- Lower Canister Outlet
J- Wire Screen (17 mesh)
K- Asbestos
L- Generator Charge
M- Starting Mixture
N- Fuse
O- Coil of Fine Wire
P- Cover Showing Soldered Tape
R- Steel Plate
S- Solder
W- Fine Wire



CANISTER DIAGRAM



DETAIL



DETAIL

[redacted]



418-TUBE, OXYGEN GENERATOR

[redacted]

543-ABSORBENT FOR CANISTER

General:

Color:	Grey
Markings:	Japanese characters on paper sticker on top of can.
Components:	130 mg active carbon, 6 pieces cotton packin
Dimensions:	2-1/8 in. in diameter, 2½ in. high.
Weight:	4 ozs.

Description: This absorbent is contained in a small metal can which is painted gray both inside and out. There is a paper sticker on the top of can with Japanese characters indicating the contents and instructor. The translation reads, "130 mg acti carbon, 6 pieces cotton packing. Use 3 pieces of cotton and half the carbon each time. Can be used 3 times."

The cotton packing is in the top section of the can and the carbon is below.

Remarks: It is not known for which canisters this is a replacement, however it probably is used in the standard canisters.



[redacted]

[redacted]

DISTRIBUTION LIST

Copy No.

1 - 3 G-2, WDIT, AFPAC, for GHQ Library

4-13 G-2, WDIT, for transmittal to G-2, War Department

14 - 18 Office of Chief Chemical Officer, AFPAC

19 - 43 Chief, Chemical Warfare Service, Washington, D.C.

44 - 58 Technical Intelligence Center reserve files

59 - 61 Technical Intelligence Center

62 - 64 Technical Intelligence Center Chemical Section

65 - 69 Chemical Officer, AFMIDPAC

70 - 74 Chemical Officer, AFWESPAC

75 - 79 Chemical Officer, PACOM

80 - 88 Chemical Officer, Eighth Army

89-100 File, Office of Chief Chemical Officer, AFPAC

[redacted]

268091

LABORATORY SECTION
10TH CW GEN. SERVICE CO.
APO 503

(c)