IC bureau of mines information circular 8281

RESPIRATORY PROTECTIVE DEVICES APPROVED BY THE BUREAU OF MINES AS OF OCTOBER 1, 1965

By R. H. Schutz, B. I. Ferber

and E. J. Kloos

BUREAU OF MINES
FILE COPY
FOR EMERGENCY LOAN

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

1966

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/1

RESPIRATORY PROTECTIVE DEVICES APPROVED BY THE BUREAU OF MINES AS OF OCTOBER 1, 1965

By R. H. Schutz, B. I. Ferber

and E. J. Kloos

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ information circular 8281

UNITED STATES DEPARTMENT OF THE INTERIOR
Stewart L. Udall, Secretary

BUREAU OF MINES
Walter R. Hibbard, Jr., Director

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/2

This publication has been cataloged as follows:

Schutz, R H

Respiratory protective devices approved by the Bureau of Mines as of October 1, 1965, by R. H. Schutz, B. I. Ferber and E. J. Kloos. [Washington] U.S. Dept. of the Interior, Bureau of Mines [1966]

22 p. (U.S. Bureau of Mines. Information circular 8281)

1 Respirators. 2. Mining engineering—Safety measures. I Title (Series)

TN23.U71 no. 8281 622.06173

U.S. Dept. of the Int. Library.

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price 25 cents

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/3

CONTENTS

	Page
Introduction	1
Approval labels	2
Approved respiratory protective devices as of October 1, 1965	3
Self-contained breathing apparatus approved under schedules 13, 13A, 13B, 13C, and 13D	3
Gas masks approved under schedules 14, 14A, 14B, 14C, 14D, 14E, and 14F	4
Type A Acid-gas masks	4
Type AE. Acid-gas, dust, mist, and fog masks	4
Type B Organic-vapor masks	4
Type BE Organic-vapor, toxic-dust, fume, mist, and fog masks	5
Type BE Organic-vapor, dust, mist, and fog masks	5
Type AB Acid-gas and organic-vapor masks	5
Type ABE Acid-gas, organic-vapor, toxic-dust, fume, mist, and fog masks	5
Type ABE Acid-gas, organic-vapor, dust, mist, and fog masks	5
Type C Ammonia-gas masks	5
Type CE Ammonia, dust, mist, and fog masks	5
Type D Carbon monoxide-gas masks	6
Type N Universal gas masks	6
Type BF Masks for organic vapors and special gases	6
Type BFE Masks for organic vapors, special gases, and toxic dusts, fumes, and mists	7
Type BTE Masks for organic vapors, special gases, and toxic dusts, mists, fogs, and smokes	7
Type ABTE Masks for acid gases, organic vapors, special gases, and dusts, mists, and fogs	7
Supplied-air respirators approved under schedules 19, 19A, the amendment to 19A, schedule 19B, and the amendments to 19B	7
Type A Hose masks with blowers	7
Type B Special hose masks without blowers	7
Type C Air-line respirators	7
Type CE. Abrasive-blasting helmets, hoods, or masks	8
Dispersoid (dust, fume, and mist) respirators approved under schedules 21, 21A, and 21B	9
Pneumoconiosis-producing and nuisance dust respirators	9
Toxic-dust respirators	9
Dust respirators	10
Dust and fume respirators	11
Mist respirators	12
Nonemergency gas respirators (chemical-cartridge respirators) approved under schedules 23, 23A, and 23B	12
Type B: Organic-vapor respirators	12
Type BE Dispersoid and organic-vapor respirators	13
Bibliography	15
Appendix A. Inactive devices	16
Appendix B. Names and addresses of companies to which approvals on currently active respiratory protective devices have been granted	22

U.S. Bureau of Mines, Respiratory Protective Devices Approved as of October 1, 1965 (1966)
ACL Doc 25222 · Page 4 of 26
Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/4

RESPIRATORY PROTECTIVE DEVICES APPROVED BY THE BUREAU OF MINES AS OF OCTOBER 1, 1965

by

R. H. Schutz,[1] B. I. Ferber,[2] and E. J. Kloos [2]

Introduction

TO ASSIST users in the selection of reliable and satisfactory respiratory protective devices, the Bureau of Mines has established five schedules of minimum performance requirements for the approval of respirators. The current revisions of these schedules [3] include 13D for self-contained breathing apparatus, 14F for gas masks, 19B and the amendments to 19B for supplied-air respirators, 21B for dust, fume, and mist respirators, and 23B for chemical cartridge respirators. Copies of these schedules may be obtained from the Bureau of Mines, Publications Distribution Section, 4800 Forbes Avenue, Pittsburgh, Pa., 15213.

Approval tests on respirators are performed only at the request of the manufacturer [4] of the respirator and at his expense. If the device meets the approval requirements, a certificate of approval is granted on the complete respirator. This certificate states that as long as the respirator is manufactured as originally approved, or in accordance with any changes covered by an extension of the original approval, the manufacturer may advertise and sell his respirator as being approved by the Bureau of Mines. Many industries and regulatory agencies require that respirators approved by the Bureau of Mines be used where respiratory protection is needed. The Bureau of Mines, however, has no regulatory power over the use of the respirators that it approves. It acts as an impartial testing agency to insure the availability of suitable and safe respirators.

At frequent intervals, the Bureau of Mines purchases approved respirators and replacement parts on the open market. These are examined for conformity to the approved status, and are checked to insure that the manufacturer's production facilities are maintaining a satisfactory quality control.

---

[1] Chief, Respirator Section, Branch of Health Research, Bureau of Mines, Pittsburgh, Pa.
[2] Supervisory chemist, Respirator Section, Branch of Health Research, Bureau of Mines, Pittsburgh, Pa.
[3] A list of approval schedules and their publication dates will be found in the bibliography.
[4] A list of respirator manufacturers and their addresses will be found in appendix B.
Work on manuscript completed October 1965.

U.S. Bureau of Mines, Respiratory Protective Devices Approved as of October 1, 1965 (1966)
Published by AsbestosClaims.Law
ACL Doc 25222 · Page 5 of 26
asbestosclaims.law/library/25222/5

APPROVAL LABELS

To provide purchasers and users with means of identifying approved devices and procuring the proper parts when making repairs and replacements, the Bureau of Mines requires that all devices marketed under provisions of the approval system of the Bureau of Mines must have an approval label with the seal of the Bureau, the approval number, the name of the manufacturer to whom the approval is issued, and the conditions for which the approval is granted. Essential parts of the devices are marked with the approval number. The approval obligates the manufacturer to maintain the quality of the product and to construct each device, in all its parts, in exact accordance with drawings and specifications of the device that the Bureau examined and approved. Any device that exhibits changes in design or includes any parts that were not in the device approved, whether the change is made by the manufacturer or the consumer, is not permissible and may not bear the Bureau of Mines approval label.

The approval label is affixed to self-contained breathing apparatus. Canister-type gas masks bear a label on the case and on each canister, and the approval number is marked on the facepiece and the canister harness, for example, "BM-1400." Type A (hose mask) and type B (special hose mask without blower) supplied-air respirators have the approval label on their cases or containers, and the approval number is marked on the air-supply arrangement, air-supply line, facepiece, and harness. Type C (air-line respirator) and type CE (abrasive-blasting respirator) supplied-air respirators have the approval label on their cases (if provided) or on a special sheet with instructions for using the device; the approval number is marked on the air-supply line, air-regulating valve, and harness, and on the facepiece, hood, or helmet. The containers of dispersoid respirators and the replacement-filter units bear approval labels; the approval number is marked on the facepiece and each filter unit. The filter units also bear a marking that designates the type(s) of particulate matter for which they are approved, such as pneumoconiosis-producing and nuisance dusts, toxic dusts, or fumes. Nonemergency gas respirators have the approval labels on the containers for the respirator and replacement chemical cartridges; the chemical cartridge has a rearranged replica of the approval label (so that it can fit on the available space on the cartridge). The facepiece bears the approval number. In addition, a type BE chemical cartridge respirator has the approval number marked on each dispersoid filter unit as well as a notation specifying the type of particulate matter.

On approvals granted before 1958 the first two digits of the approval number indicated only the original schedule number, although the respirator may have been approved under a revision of the original schedule. On approvals granted since 1958, the approval number has included both the number and letter of the revised schedule under which the certificate of approval was issued, as a separate item. For example, approval number BM-13D-99 would indicate the 99th approval of a self-contained breathing apparatus and that the apparatus was tested and granted a certificate of approval under the requirements of schedule 13D.

U.S. Bureau of Mines, Respiratory Protective Devices Approved as of October 1, 1965 (1966)
ACL Doc 25222 · Page 6 of 26
Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/6

APPROVED RESPIRATORY PROTECTIVE DEVICES AS OF OCTOBER 1, 1965

Lists of approved devices are published for the information of the public. The last list published, Bureau of Mines Information Circular 7885, included all devices approved as of October 16, 1958.

Following is a list of all active respiratory-protective devices that had obtained official certification of approval from the Bureau of Mines as of October 1, 1965. These active devices are currently manufactured and sold and are listed with the manufacturer's current designation. Inactive devices, listed in appendix A, are no longer manufactured, but retain their Bureau of Mines approval status. The addresses of the manufacturers of approved active respirators are listed alphabetically in appendix B.

Lists of respiratory protective devices approved after October 1, 1965, may be obtained from the Branch of Health Research, Bureau of Mines, 4800 Forbes Avenue, Pittsburgh, Pa. 15213.

SELF-CONTAINED BREATHING APPARATUS APPROVED UNDER SCHEDULES 13, 13A, 13B, 13C, AND 13D

1. M-S-A ® cat. No. 01-70001 McCaa 2-hour oxygen breathing apparatus. Approval BM-1303, issued to Mine Safety Appliances Co., August 31, 1925, under schedule 13.
2. M-S-A ® cat. No. 01-14004 1-hour oxygen breathing apparatus. Approval BM-1306, issued to Mine Safety Appliances Co., July 28, 1937, under schedule 13B.
3. Scott Air-Pak model No. 6000A2MS demand-type air apparatus (½-hour self-contained compressed-air breathing apparatus). Approval BM-1308, issued to Scott Aviation Corp., October 3, 1946, under schedule 13C. (Also covers the use of a low pressure warning device.)

3a. Scott Air-Pak model No. 6000A2MSP pressure-demand-type air apparatus (½-hour self-contained compressed-air breathing apparatus). Extension of approval BM-1308, issued to Scott Aviation Corp., July 24, 1962, under schedule 13C. (Also covers the use of a low pressure warning device.)

3b. Scott Air-Pak II model No. 900000 (½-hour self-contained compressed-air breathing apparatus). Extension of approval BM-1308, issued to Scott Aviation Corp., September 22, 1964, under schedule 13C. (Also covers the use of a low pressure warning device.)

3c. Scott Air-Pak model No. 6000A2MS demand-type air apparatus (½-hour self-contained compressed-air breathing apparatus). Extension of approval BM-1308, issued to Scott Air-Pak, Ltd., October 14, 1963, under schedule 13C. (Also covers the use of a low pressure warning device.)

3d. Scott Air-Pak model No. 6000A2MSP pressure-demand-type air apparatus (½-hour self-contained compressed-air breathing apparatus). Extension of approval BM-1308, issued to Scott Air-Pak, Ltd., October 14, 1963, under schedule 13C. (Also covers the use of a low pressure warning device.)

3e. Scott Air-Pak II, model No. 900000 (½-hour self-contained compressed-air breathing apparatus). Extension of approval BM-1308, issued to Scott Air-Pak, Ltd., September 22, 1964, under schedule 13C. (Also covers the use of a low pressure warning device.)

4. M-S-A ® cat. No. 01-93160 demand-type oxygen breathing apparatus (½-hour self-contained compressed-oxygen breathing apparatus). Approval BM-1309, issued to Mine Safety Appliances Co., October 3, 1946, under schedule 13C. (Also covers the use of a low pressure warning device.)

4a. M-S-A ® cat. No. 01-93180 pressure-demand-type oxygen breathing apparatus (½-hour self-contained compressed-oxygen breathing apparatus). Extension of approval BM-1309, issued to Mine Safety Appliances Co., July 24, 1962, under schedule 13C. (Also covers the use of a low pressure warning device.)

5. M-S-A ® cat. No. 01-93200 demand-type air breathing apparatus (½-hour self-contained compressed-air breathing apparatus). Approval BM-1310, issued to Mine Safety Appliances Co., November 26, 1946, under schedule 13C. (Also covers the use of a low pressure warning device.)

5a. M-S-A ® cat. No. 01-93181 pressure-demand-type air breathing apparatus (½-hour self-contained compressed-air breathing apparatus). Extension of approval BM-1310, issued to Mine Safety

U.S. Bureau of Mines, Respiratory Protective Devices Approved as of October 1, 1965 (1966)
ACL Doc 25222 · Page 7 of 26
Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/7

Appliances Co., July 24, 1962, under schedule 13C. (Also covers the use of a low pressure warning device.)

6. M–S–A® cat. No. 01–48439 McCaa 2-hour oxygen breathing apparatus with full facepiece. Approval BM–1303S, issued to Mine Safety Appliances Co., November 20, 1956, under schedule 13D.
7. Globe Air Guardsman part Nos. 1795–2GA and 2295–2GA demand-type air apparatus (½-hour self-contained compressed-air breathing apparatus). Approval BM–13D–11, issued to Globe Industries, Inc., June 30, 1959, under schedule 13D. (Also covers the use of a low pressure warning device.)
8. Fyr-Fyter Guardsman part Nos. AM–220 and AM–220–2901–1 demand-type air apparatus (½-hour self-contained compressed-air breathing apparatus). Extension of approval BM–13D–11, issued to The Fyr-Fyter Co., August 6, 1959, under schedule 13D. (Also covers the use of a low pressure warning device.)
9. U.S. Divers SurvivAir model No. 9030 demand-type air apparatus (½-hour self-contained compressed-air breathing apparatus). Approval BM–13D–12, issued to U.S. Divers Co., September 11, 1961, under schedule 13D. (Also covers the use of a low pressure warning device.)

9a. U.S. Divers SurvivAir model No. 9030–20 pressure-demand-type air apparatus (½-hour self-contained compressed-air breathing apparatus). Extension of approval BM–13D–12, issued to U.S. Divers Co., June 3, 1963, under schedule 13D. (Also covers the use of a low pressure warning device.)

10. M–S–A® cat. No. 01–87500 1-Hour Chemox oxygen-generating breathing apparatus (with 01–45151 or 01–92900 canisters). Extension of approval BM–1307, issued to Mine Safety Appliances Co., January 25, 1962, under schedule 13C. (M–S–A part No. 89855 Conversion Kit is available to change ¾-hour Chemox to 1-hour Chemox.)
11. M–S–A® cat. No. 01–84600 ½-Hour Chemox oxygen-generating breathing apparatus (with 01–84860 canister). Approval BM–13D–13, issued to Mine Safety Appliances Co., May 2, 1962, under schedule 13D.
12. Firewel model LP–1–A 2-hour liquid-air self-contained breathing apparatus, pressure-demand type. Approval BM–13D–14, issued to The Firewel Co., Inc., February 18, 1965, under schedule 13D.
13. Firewel model LP–1–O 2-hour liquid oxygen self-contained breathing apparatus, pressure-demand type. Approval BM–13D–15, issued to The Firewel Co., Inc., February 23, 1965, under schedule 13D.

GAS MASKS APPROVED UNDER SCHEDULES 14, 14A, 14B, 14C, 14D, 14E AND 14F

Type A: Acid-Gas Masks

1. Acme 678–1 chlorine-gas mask (with 181–CL canister) and 678–1–4–P chlorine-gas mask (with 184–CL canister). Approval BM–1421, issued to Acme Protection Equipment Co., Inc., April 21, 1939, under schedule 14D.
2. Davis stock Nos. 4107 and 4107P hydrocyanic acid-gas masks (with C–7 canister). Approval BM–1424, issued to Davis Emergency Equipment Co., Inc., December 11, 1939, under schedule 14D.
3. Davis stock Nos. 4115 and 4115P chlorine gas masks (with C–6 canister). Approval BM–1427, issued to Davis Emergency Equipment Co., Inc., June 26, 1940, under schedule 14D.
4. Willson WIG, WIGW, and TIGW hydrocyanic acid-gas masks (with G–7 canister). Approval BM–1428, issued to Willson Products, Inc., August 30, 1940, under schedule 14D.
5. Willson WIG, WIGW, and TIGW chlorine-gas masks (with G8 canister). Approval BM–1453, issued to Willson Products, Inc., January 20, 1953, under schedule 14E.

Type AE: Acid-Gas, Dust, Mist, and Fog Masks

1. M–S–A® cat. Nos. 05–84871, 05–86201, and 05–86202 gas masks (with GML–05–77711 canister) for chlorine, and dusts, mists, and fogs. Approval BM–14F–60, issued to Mine Safety Appliances Co., March 29, 1961, under schedule 14F.
2. M–S–A® cat. Nos. 05–84873, 05–86203, and 05–86204 gas masks (with GMK–05–77709 canister) for hydrocyanic acid gas, and dusts, mists, and fogs. Approval BM–14F–62, issued to Mine Safety Appliances Co., April 7, 1961, under Schedule 14F.
3. M–S–A® cat. Nos. 05–86178, 05–86113, and 05–86115 gas masks (with GMK–SS–05–84499 canister) for hydrocyanic acid gas, and dusts, mists, and fogs. Approval BM–14F–63, issued to Mine Safety Appliances Co., April 18, 1961, under Schedule 14F.

Type B: Organic-Vapor Masks

1. Davis stock Nos. 4101 and 4101P organic-vapor masks (with C–1 canister). Approval BM–1417, issued to Davis Emergency Equipment Co., May 3, 1938, under schedule 14D.

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/8

2. Acme 679–1 organic-vapor mask (with 181–OV canister) and 679–1–4–P and 670–1–4–P organic-vapor masks (with 184–OV canister). Approval BM–1418, issued to Acme Protection Equipment Co., Inc., May 13, 1938, under schedule 14D.
3. Willson WIG, WIGW, and TIGW organic-vapor masks (with G–1 canister). Approval BM–1423, issued to Willson Products, Inc., October 6, 1939, under schedule 14D.
4. Willson WLG, WLGW, and TLGW organic-vapor masks (with LG1 canister). Approval BM–1437, issued to Willson Products, Inc., August 5, 1944, under schedule 14E.
5. Davis stock Nos. 4131 and 4131P organic-vapor masks (with C–1 canister). Extension of approval BM–1417, issued to Davis Emergency Equipment Co., Inc., September 22, 1938, under schedule 14D.

Type BE: Organic-Vapor, .Toxic-Dust, Fume, Mist, and Fog Masks

1. Willson WLG, WLGW, and TLGW organic-vapor, toxic dust, fume, mist, and fog masks (with LG1G canister). Approval BM–1446, issued to Willson Products, Inc., April 7, 1950, under schedule 14E.

Type BE: Organic-Vapor, Dust, Mist, and Fog Masks

1. M–S–A® cat. Nos. 05–85867, 05–86197, and 05–86198 gas masks for organic vapors, and dusts, mists, and fogs (with GMA–05–77705 canister). Approval BM–14F–56, issued to Mine Safety Appliances Co., February 24, 1961, under schedule 14F.
2. M–S–A® cat. Nos. 05–86175, 05–84891, and 05–84883 gas masks for organic vapors, and dusts, mists, and fogs (with GMA–SS–05–77706 canister). Approval BM–14F–57, issued to Mine Safety Appliances Co., March 10, 1961, under schedule 14F.

Type AB: Acid-Gas and Organic-Vapor Masks

1. Davis stock Nos. 4124 and 4124P acid-gas and organic-vapor masks (with OC–4 canister). Approval BM–1411, issued to Davis Emergency Equipment Co., Inc., January 19, 1931, under schedule 14B.
2. Willson WTG, WTGW, and TTGW hydrogen sulfide and petroleum-vapor masks (with LG9 canister). Approval BM–1444, issued to Willson Products, Inc., April 18, 1949, under schedule 14E.

793–328—66——2

3. Willson WLG, WLGW, and TLGW acid-gas and organic-vapor masks (with LG3 canister). Approval BM–1450, issued to Willson Products, Inc., March 22, 1951, under schedule 14E.

Type ABE: Acid-Gas, Organic-Vapor, Toxic-Dust, Fume, Mist, and Fog Masks

1. Willson WLG, WLGW, and TLGW acid-gas, organic-vapor, toxic-dust, fume, mist, and fog masks (with LG3G canister). Approval BM–1451, issued to Willson Products, Inc., March 22, 1951, under schedule 14E.

Type ABE: Acid-Gas, Organic-Vapor, Dust, Mist, and Fog Masks

1. M–S–A® cat. Nos. 05–86176, 05–86109, and 05–86111 gas masks for acid-gases, organic vapors, and dusts, mists, and fogs (with GMC–S–05–84908 canister) Approval BM–14F–64, issued to Mine Safety Appliances Co., April 18, 1961, under schedule 14F

Type C: Ammonia-Gas Masks

1. Acme 677–1 ammonia-gas mask (with 181–AMN canister). Approval BM–1420, issued to Acme Protection Equipment Co., Inc., March 25, 1939, under schedule 14D.
2. Willson WLG, WLGW, and TLGW ammonia-gas masks (with LG4 canister) Approval BM–1438, issued to Willson Products, Inc., September 22, 1944, under schedule 14E.
3. Davis stock Nos. 4103 and 4103P ammonia-gas masks (with C–3 canister). Approval BM–1452, issued to Davis Emergency Equipment Co., Inc., March 29, 1951, under schedule 14E.
4. Willson WIG, WIGW, and TIGW ammonia-gas masks (with G4 canister). Approval BM–1454, issued to Willson Products, Inc., November 29, 1955, under schedule 14F
5. Acme 677–1–4–P ammonia-gas mask (with 184–AMN canister). Approval BM–14F–55, issued to Acme Protection Equipment Co., May 4, 1959, under schedule 14F.

Type CE: Ammonia, Dust, Mist, and Fog Masks

1. M–S–A® cat. Nos. 05–84869, 05–86199, and 05–86200 gas masks for ammonia, and dusts, mists, and fogs (with GMD–05–77707 canister). Approval BM–14F–58, issued to Mine Safety Appliances Co., March 10, 1961, under schedule 14F.

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/9

2. M–S–A® cat. Nos. 05–86177, 05–84889, and 05–84881 gas masks for ammonia, and dusts, mists, and fogs (with GMD–SS–05–77708 canister). Approval BM–14F–59, issued to Mine Safety Appliances Co., March 16, 1961, under schedule 14F.

Type D: Carbon Monoxide-Gas Masks

1. M–S–A® cat. No. 10–48391 respirator for self rescue (with 10–49866 cartridge). Approval BM–1447, issued to Mine Safety Appliances Co., April 7, 1950, under schedule 14E.

Type N: Universal Gas Masks

Universal Gas Masks With Filters That Afford Respiratory Protection Against Smokes From Ordinary Fires and Limited Respiratory Protection Against Dusts, Fumes, Mists, and Fogs

1. Acme 698–1 universal gas mask (with 084–N–L canister). Approval BM–1435, issued to Acme Protection Equipment Co., Inc., September 30, 1942, under schedule 14E.
2. Willson WLG, WLGW, and TLGW universal gas masks (with N1 canister). Approval BM–1443, issued to Willson Products, Inc., May 25, 1948, under schedule 14E.
3. Willson WLG, WLGW, and TLGW universal gas masks (with N1W window-indicator canister). Approval BM–1443A, issued to Willson Products, Inc., June 9, 1958, under schedule 14E.
4. Acme 698–1W universal gas mask (with 084–N–LW canister). Approval BM–1435A, issued to Acme Protection Equipment Co., March 30, 1960, under schedule 14E.
5. Davis stock Nos. 4116 and 4116–P universal gas masks (with UC–4 canister). Approval BM–14E–67, issued to Davis Emergency Equipment Co., Inc., May 9, 1963, under schedule 14E.
6. Davis stock Nos. 4117 and 4117P universal gas masks (with UC–5 window-indicator canister). Approval BM–14E–67A, issued to Davis Emergency Equipment Co., Inc., May 9, 1963, under schedule 14E.

Universal Gas Masks With High-Efficiency Filters That Afford Respiratory Protection Against Toxic Dusts, Fumes, Mists, Fogs, and Smokes

1. Acme 699–1 universal gas mask (with 084–FD–F canister). Approval BM–1436, issued to Acme Protection Equipment Co., Inc., October 27, 1943, under schedule 14E.
2. Willson WLG, WLGW, and TLGW universal gas masks (with N2 canister). Approval BM–1445, issued to Willson Products, Inc., June 29, 1949, under schedule 14E.
3. Davis stock Nos. 4111 and 4111–P universal gas masks (with UC–2 canister). Approval BM–1448, issued to Davis Emergency Equipment Co., Inc., August 16, 1950, under schedule 14E.
4. Acme 699–1W universal gas mask (with 084–FD–FW window-indicator canister). Approval BM–1436A, issued to Acme Protection Equipment Co., June 9, 1958, under schedule 14E.
5. Willson WLG, WLGW, and TLGW universal gas masks (with N2W canister). Approval BM–1445A, issued to Willson Products, Inc., October 16, 1958, under schedule 14E.
6. Davis stock Nos. 4112 and 4112–P universal gas masks (with UC–3 window-indicator canister). Approval BM–1448A, issued to Davis Emergency Equipment Co., October 16, 1958, under schedule 14E.
7. M–S–A® cat. Nos. 05–86217, 05–86209, and 05–86210 universal gas masks (with S–05–85758 canister). Approval BM–14F–66, issued to Mine Safety Appliances Co., November 13, 1961, under schedule 14F.
8. M–S–A® cat. Nos. 05–86218, 05–86211, and 05–86212 universal gas masks (with SW–05–81524 window-indicator canister). Approval BM–14F–66A, issued to Mine Safety Appliances Co., November 16, 1961, under schedule 14F.

Universal Gas Masks With Filters That Afford Respiratory Protection Against Dusts, Mists, Fogs, and Smokes

1. M–S–A® cat. Nos. 05–84877, 05–86207, and 05–86208 universal gas masks (with 05–72820 canister). Approval BM–14F–65, issued to Mine Safety Appliances Co., May 11, 1961, under schedule 14F.
2. M–S–A® "All-Service" universal gas masks (with part No. 05–88971 canister). Approval BM–14F–65A, issued to Mine Safety Appliances Co., January 2, 1963, under schedule 14F.

Type BF: Masks for Organic Vapors and Special Gases

1. Willson WLG, WLGW, and TLGW organic-vapor and phosphine-gas masks (with LG10 canister). Approval BM–14F–68, issued to Willson Products Div., Ray-O-Vac Co., September 8, 1964, under schedule 14F.

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/10

Type BFE: Masks for Organic Vapors, Special Gases, and Toxic Dusts, Fumes, and Mists

1. Willson, WLG, WLGW and TLGW organic-vapor, phosphine-gas, and toxic-dust, fume, mist, and fog masks (with LG10G canister). Approval BM-14F-69, issued to Willson Products Div., Ray-O-Vac Co., September 8, 1964, under schedule 14F.

Type BFE: Masks for Organic Vapors, Special Gases, and Toxic Dusts, Mists, Fogs, and Smokes

1. Acme 688-1 organic-vapor, phosphine-gas, and toxic-dust, mist, fog, and smoke mask (with 084-PHOV-R canister). Approval BM-14F-70, issued to Acme Protection Equipment Co., December 17, 1964, under schedule 14F.

Type ABFE: Masks for Acid Gases, Organic Vapors, Special Gases, and Dusts, Mists, and Fogs

1. M-S-A® cat. Nos. 05-84879, 05-84893, and 05-84885 gas masks for hydrogen sulfide gas, organic-vapors, phosphine, and dusts, mists, and fogs (with GMC-SS-1-05-77713 canister). Extension of approval BM-14F-61, issued to Mine Safety Appliances Co., September 8, 1964, under schedule 14F.

SUPPLIED-AIR RESPIRATORS APPROVED UNDER SCHEDULES 19, 19A, THE AMENDMENT TO 19A, SCHEDULE 19B, AND THE AMENDMENTS TO 19B

Type A: Hose Masks With Blowers

The type A supplied-air respirator (hose mask with blower) is approved for respiratory protection in any atmosphere provided that enough respirable air is supplied to the wearer by means of the blower.

1. Bullard Nos. 32HM and 34PRM hose masks with hand-operated blower. Approval BM-1903, issued to E. D. Bullard Co., April 14, 1933, under schedule 19.
2. Davis types BLS and DSI hose masks with hand-operated blower. Approval BM-1904, issued to Davis Emergency Equipment Co., Inc., October 29, 1934, under schedule 19.
3. M-S-A® "Combination" and "Utility" hose masks with hand-operated blower. Approval BM-1905A, issued to Mine Safety Appliances Co., July 2, 1935, under schedule 19 and extension of approval BM-1905A issued February 2, 1965, under the amendments to schedule 19B.
4. Davis types BLS and DSI hose masks with hand-operated blower. Approval BM-1906, issued to Davis Emergency Equipment Co., Inc., August 2, 1935, under schedule 19.

Type B: Special Hose Masks Without Blowers

The type B supplied-air respirator (special hose mask without blower) is approved for respiratory protection in atmospheres that are not immediately harmful or from which the wearer can escape unharmed without the aid of the respirator.

1. Davis model AL-25 hose mask without blower. Approval BM-1913, issued to Davis Emergency Equipment Co., Inc., March 10, 1939, under schedule 19A.
2. Bullard No. 36HM hose mask without blower. Approval BM-1916, issued to E. D. Bullard Co., October 14, 1939, under schedule 19A.

Type C: Air-Line Respirators

The type C supplied-air respirator (air-line respirator) is approved for respiratory protection in atmospheres that are not immediately harmful or from which the wearer can escape without the aid of the respirator.

Continuous-Flow-Class Air-Line Respirators That Supply Air to Interior of Facepiece Continuously at a Set Rate

1. Cesco No. 600-series "Healthguard" hoods. Approval BM-1925, issued to Chicago Eye Shield Co., August 16, 1950, under schedule 19A.
2. Willson GA2H, GAHS, GAHW, and TAHW air-line respirators. Approval BM-19B-30, issued to Willson Products Div., Ray-O-Vac Co., May 29, 1959, under schedule 19B.
3. Acme 4615-1 air-line respirator and 4616-1 air-line respirator with volume control valve. Approval BM-19B-31, issued to Acme Protection Equipment Co., October 13, 1959, under schedule 19B.
4. M-S-A® "Lead-Foe" air-line respirators. Approval BM-19B-32, issued to Mine Safety Appliances Co., June 28, 1960, under schedule 19B.
5. M-S-A® "Flexi-Flo" air-line respirators. Approval BM-19B-34, issued to Mine Safety Appliances Co., August 30, 1961, under schedule 19B.
6. M-S-A® cat. No. 10-81716 welder's air-line respirator. Approval BM-19B-37, issued to Mine Safety Appliances Co., March 12, 1962, under schedule 19B.

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/11

7. M-S-A® "Flexi-Flo" abrasive mask air-line respirators. Approval BM-19B-38, issued to Mine Safety Appliances Co., May 7, 1962, under schedule 19B.
8. M-S-A® cat. No. 10-87071 welder's air-line respirator. Approval BM-19B-37A, issued to Mine Safety Appliances Co., May 23, 1962, under schedule 19B.
9. M-S-A® "Hypertlo" air-line respirators. Approval BM-19B-34A, issued to Mine Safety Appliances Co., June 13, 1962, under schedule 19B.
10. M-S-A® "Hypertlo" abrasive mask air-line respirators. Approval BM-19B-38A, issued to Mine Safety Appliances Co., June 14, 1962, under schedule 19B.
11. Bullard 36 LS air-line respirator. Approval BM-19B-40, issued to E. D. Bullard Co., April 30, 1962, under schedule 19B.
12. Willson GA2, GA8, GAF, and GAFW air-line respirators. Extension of approval BM-1912, issued to Willson Products Div., Ray-O-Vac Co., July 27, 1964, under schedule 19B.
13. Pulmosan HA-99 hood. Approval BM-19B-44, issued to Pulmosan Safety Equipment Corp., January 20, 1965, under schedule 19B.
14. Rite "Whitecap" Series No. 460 air-line respirator. Approval BM-19B-48, issued to Rite Hardware Manufacturing Co., April 13, 1965, under schedule 19B.

Demand-Class Air-Line Respirators That Supply Air to Interior of Facepiece Only When Wearer Inhales and at a Rate Governed by His Breathing [6]

1. Scott 6380-series belt-mounted demand-class air-line respirators. Approval BM-1924, issued to Scott Aviation Corp., September 28, 1949, under schedule 19A.
2. Scott model 26000-series mask-mounted demand-class air-line respirators. Approval BM-19B-36 issued to Scott Aviation Corporation, February 23, 1962, under schedule 19B.
3. Scott model 6380-series belt-mounted demand-class air-line respirators. Extension of approval BM-1924, issued to Scott AirPak, Ltd., October 14, 1963, under schedule 19A.
4. Scott model 26000-series mask-mounted demand-class air-line respirators. Extension of approval BM-19B-36 issued to Scott Air-Pak, Ltd., October 14, 1963, under schedule 19B.
5. M-S-A® demand air-line respirators with belt-mounted demand regulator. Approval BM-19B-42, issued to Mine Safety Appliances Co., March 13, 1964, under schedule 19B.
6. M-S-A® demand air-line respirators with mask-mounted demand regulator. Approval BM-19B-43, issued to Mine Safety Appliances Co., September 29, 1964, under schedule 19B.
7. Firewel mask-mounted demand air-line respirator. Approval BM-19B-46, issued to The Firewel Co., Inc., October 9, 1964, under schedule 19B.
8. Willson GDF, GDFW, TDFW, and GD2 demand air-line respirators. Approval BM-19B-47, issued to Willson Products Div., Ray-O-Vac Co., November 25, 1964, under schedule 19B.

Pressure-Demand Air-Line Respirators That Provide a Positive Pressure Inside the Facepiece and Then Supply Air Only When Wearer Inhales and at a Rate Governed by His Breathing

1. Scott model 6380DP pressure-demand air-line respirator. Extension of approval BM-1924, issued to Scott Aviation Corp., April 22, 1964, under the amendments to schedule 19B.
2. Scott model 6380DP pressure-demand air-line respirator. Extension of approval BM-1924 issued to Scott Air Pak, Ltd., April 22, 1964, under the amendments to schedule 19B.
3. Firewel pressure-demand air-line respirator. Approval BM-19B-45, issued to The Firewel Co., Inc., October 9, 1964, under the amendments to schedule 19B.

Type CE: Abrasive-Blasting Helmets, Hoods, or Masks

The type CE supplied-air respirator (abrasive-blasting helmet, hood, or mask) is approved for respiratory protection during abrasive blasting in atmospheres that are not immediately harmful or from which the wearer can escape without the aid of the respirator.

1. Pangborn type DD-4 blast helmet. Approval BM-1908, issued to Pangborn Corp., July 15, 1948, under schedule 19A.
2. Sly "Purair" helmet. Approval BM-1911, issued to W. W. Sly Manufacturing Co., July 16, 1948, under schedule 19A, and July 11, 1957, under schedule 19B.
3. Willson Nos. 31 and 33 abrasive-blasting helmets. Approval BM-1914, issued to Willson Products, Inc., March 10, 1939, under schedule 19A.
4. Pangborn type DF-2 blast helmet. Approval BM-1915, issued to Pangborn Corp., March 23, 1939, under schedule 19A.
5. METCO air-line respirator. Extension of approval BM-1920, issued to Metallizing Engineering Co., Inc., December 8, 1948, under schedule 19A.
6. Willson No. 52 lightweight abrasive-blasting helmet. Approval BM-1923, issued to Willson Products, Inc., July 19, 1949, under schedule 19A.
7. M-S-A® "Blastfoe" abrasive helmets. Approval BM-1926, issued to Mine Safety Appliances Co., May 9, 1951, under schedule 19A.

[6] Some demand-class air-line respirators also provide an adjustable continuous airflow for the comfort of the wearer.

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/12

8. Cesco Nos. 603–RH, 603–RS, and 603–RG abrasive blasting hoods. Approval BM–19B–35, issued to Chicago Eye Shield Co., January 9, 1962, under schedule 19B.
9. M–S–A® "Flexi-Flo" abrasive masks with lightweight or heavyweight hoods. Approval BM–19B–38, issued to Mine Safety Appliances Co., May 7, 1962, under schedule 19B.
10. M–S–A® "Hyperflo" abrasive masks with lightweight or heavyweight hoods. Approval BM–19B–38A, issued to Mine Safety Appliances Co., June 14, 1962, under schedule 19B.
11. Bullard No. 37–V abrasive blasting helmet. Approval BM–19B–39, issued to E. D. Bullard Co., April 24, 1962, under schedule 19B.
12. Bullard No. 37–LD lightweight abrasive blasting helmet. Approval BM–19B–40, issued to E. D. Bullard Co., April 30, 1962, under schedule 19B.
13. M–S–A® "Flexi-Flo" abrasive mask. Approval BM–19B–41, issued to Mine Safety Appliances Company, March 5, 1964, under schedule 19B.
14. M–S–A® "Hyperflo" abrasive mask. Approval BM–19B–41A, issued to Mine Safety Appliances Co., March 5, 1964, under schedule 19B.
15. Pulmosan IIA–99 hood. Approval BM–19B–44, issued to Pulmosan Safety Equipment Corp., January 20, 1965, under schedule 19B

DISPERSOID (DUST, FUME, AND MIST) RESPIRATORS APPROVED UNDER SCHEDULES 21, 21A, AND 21B

For the purpose of these approvals, the following definitions of the terms "dust," "fume," "mist," and "TLV" are used

Dust—Dispersoids of particulate matter, smaller than 0.1 mm or 100 microns formed when solid materials are disintegrated by such processes as crushing, grinding, and abrading.

Fume—Solid dispersoids formed when vapors are condensed from heated metals and other substances. (Not to be confused with the popular use of the term "fume" when referring to odorous gases and vapors.)

Mists—Liquid dispersoids formed when liquid is disintegrated, as in spray coating and atomizing.

TLV—Threshold Limit Value as adopted by the American Conference of Governmental Industrial Hygienists 1014 Broadway, Cincinnati, Ohio, 45202.

Pneumoconiosis-Producing and Nuisance Dust Respirators

These respirators are approved only for protection against the inhalation of pneumoconiosis-producing dusts and nuisance dusts having a TLV of 2.4 million particles per cubic foot, or greater, such as free silica, asbestos, aluminum, cellulose, cement, charcoal, coal, coke, flour, gypsum, iron ore, limestone, and wood.

All active devices listed under "Dust Respirators" and under "Dust and Fume Respirators" are also approved for protection against the inhalation of dust having a TLV of 2.4 million particles per cubic foot, or greater.

1. Cover No. 24 respirator Approval BM–2111, issued to H. S. Cover, September 15, 1936, under schedule 21.
2. Willson No. 200 respirator (with R224 filter). Approval BM–2118, issued to Willson Products, Inc., December 30, 1937, under schedule 21.
3. Cover No. 40 respirator. Approval BM–2129, issued to H. S. Cover, July 5, 1939, under schedule 21.
4. M–S–A® cat. No. 10–16076 respirator (with 10–17618 filter). Extension of approval BM–2132, issued to Mine Safety Appliances Co., August 23, 1939, under schedule 21. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot or greater.)
5. A.O. R9100 respirator Approval BM–2137, issued to American Optical Co., March 6, 1940, under schedule 21.
6. Pulmosan L–S10 respirator (with L–S10–7 filter). Approval BM–2158, issued to Pulmosan Safety Equipment Corp., March 1, 1949, under schedule 21.
7. Pulmosan L–S15 respirator (with L–S15–7 filter). Approval BM–2159 issued to Pulmosan Safety Equipment Corp., April 26, 1949, under schedule 21.
8. Safeline 5311 respirator. Extension of approval BM–2137 issued to Safeline Products, January 24, 1964 under schedule 21

Toxic-Dust Respirators

These respirators are approved only for protection against the inhalation of dusts having a TLV of 0.1 milligram per cubic meter, or greater, such as arsenic, cadmium, chromium, lead, manganese, selenium, vanadium, and their compounds.

All active devices listed under "Dust Respirators" and under "Dust and Fume Respirators" are also approved for protection against inhalation of dusts having a TLV of 0.1 milligram per cubic meter, or greater.

1. A.O. R9100T respirator Approval BM–2144, issued to American Optical Company, May 19, 1941, under schedule 21.
2. Safeline 5321 respirator. Extension of approval BM–2144, issued to Safeline Products, January 24, 1964, under schedule 21.

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/13

Dust Respirators

These respirators are approved only for protection against the inhalation of dusts having a TLV of 0.1 milligram per cubic meter or greater, or dusts having a TLV of 2.4 million particles per cubic foot, or greater.

All active devices listed under "Toxic-Dust Respirators" and under "Dust and Fume Respirators" are also approved for protection against inhalation of dusts having a TLV of 0.1 milligram per cubic meter, or greater.

1. Cover No. 46 "Dupor" respirator. Approval BM–2124, issued to H S Cover, October 3, 1938, under schedule 21 .
2. A.O. R2017 respirator (with R17 filter). Extension of approval BM–2138, issued to American Optical Co., February 4, 1941, under schedule 21.
3. Willson No. 750DC respirator (with R407 filter). Approval BM–2151, issued to Willson Products, Inc., October 5, 1944, under schedule 21. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)
4. Willson Nos. 5D and 45CD respirators (with R393 filter) Approval BM–2152, issued to Willson Products, Inc , October 19, 1944 under schedule 21. (Also approved for protection against inhalation of mists of materials having a TLV of 0 1 milligram per cubic meter, or greater, or 2 4 million particles per cubic foot, or greater.)
5. A O R2000 respirator (with R25 filter) Approval BM–2154, issued to American Optical Co January 2 1947 under schedule 21.
6. Pulmosan L–800 respirator (with L–800–7 filter). Extension of approval BM–2160 issued to Pulmosan Safety Equipment Corp., February 13, 1953, under schedule 21. (Also approved for protection against inhalation of mists of materials having a TLV of 0 1 milligram per cubic meter, or greater)
7. Willson Nos. 6 and 460C respirators (with R415 filter) Approval BM–2161, issued to Willson Products, Inc June 30, 1950 under schedule 21. (Also approved for protection against inhalation of mists of materials having a TLV of 0 1 milligram per cubic meter, or greater, or 2 4 million particles per cubic foot or greater)
8. Willson No 860C respirator (with R415 filters). Approval BM–2162 issued to Willson Products, Inc , June 30, 1950, under schedule 21 (Also approved for protection against inhalation of mists of materials having a TLV of 0 1 milligram per cubic meter or greater, or 2.4 million particles per cubic foot, or greater.)
9. DeVilbiss MSD–505 respirator (with MSD–506 filter). Extension of approval BM–2154, issued to The DeVilbiss Co , November 3, 1950, under schedule 21.
10. Pulmosan L–805 respirator (with L–805–7 pouch-type filter). Approval BM–2165, issued to Pulmosan Safety Equipment Corp., December 11, 1950, under schedule 21.
11. Cesco No. 96 respirator (with No. 96–10 filters). Approval BM–2167, issued to Chicago Eye Shield Co., October 16, 1952, under schedule 21.
12. M–S–A® cat. No. 10–86430 respirator (with Type "F" filters). Approval BM–2168, issued to Mine Safety Appliances Co., October 13, 1955, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)
13. Willson No. 600A respirator (with R501 filter). Approval BM–2170, issued to Willson Products, Inc., January 18, 1956, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)
14. M–S–A® Ltd. "Dustfoe #55" respirator (with #55 filter). Extension of approval BM–2166, issued to Mine Safety Appliances Co , Ltd., March 28, 1956, under schedule 21. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)
15. A.O. R2090 respirator (with R90 filter) Approval BM–2172, issued to American Optical Co., July 11, 1958, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2 4 million particles per cubic foot, or greater)
16. Pulmosan C–264 respirator (with C–264–7 filter). Approval BM–2173, issued to Pulmosan Safety Equipment Corp , August 26, 1958, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0 1 milligram per cubic meter, or greater.)
17. A O. R5090 respirator (with R90 filters) Approval BM–2174, issued to American Optical Co August 18, 1958, under schedule 21A (Also approved for protection against inhalation of mists of materials having a TLV of 0 1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)
18. Welsh No 7100 respirator (with 7100–7 filter). Approval BM–2175, issued to Welsh Manufacturing Co., August 29, 1958, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater)
19. Pulmosan L–801 respirator (with L–801–7 filter). Approval BM–21A–76, issued to Pulmosan Safety Equipment Corp., December 11, 1958, under schedule 21A. (Also approved for protection

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/14

against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater.)

20 Cesco No. 90–F respirator (with 90–1 filter). Extension of approval BM–21A–77, issued to Chicago Eye Shield Co., January 11, 1962, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

21 A.O. R6030 respirator (with R30 filters). Approval BM–21A–78, issued to American Optical Co., September 20, 1962, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

22 Welsh No. 7506 respirator (with 7500–6 filters). Approval BM–21A–79, issued to Welsh Manufacturing Co., September 9, 1963, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

23 Welsh No. 7406 respirator (with 7500–6 filter). Approval BM–21A–80, issued to Welsh Manufacturing Co., September 9, 1963, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

24 Safeline 5265 respirator (with 5901 filter). Extension of approval BM–2174, issued to Safeline Products, January 24, 1964, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

25 Safeline 5441 respirator (with 5905 filter). Extension of approval BM–21A–81, issued to Safeline Products, April 14, 1964, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

26 Glendale GR–2000 respirator (with F–10 filters). Approval BM–21A–82, issued to Glendale Optical Co., Inc., April 10, 1964, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

27. Glendale GR–1000 respirator (with F–10 filter). Approval BM–21A–83, issued to Glendale Optical Co., Inc., April 10, 1964, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

28. A.O. R3030 respirator (with R30 filter). Approval BM–21A–85, issued to American Optical Co., November 13, 1964, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

29. M–S–A® cat. No. 10–76869 respirator (with #66 filter). Extension of approval BM–2166, issued to Mine Safety Appliances Co., November 20, 1964, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

30. A.O. R8100 respirator (with R100 filter). Approval BM–21B–88, issued to American Optical Co., July 9, 1965, under schedule 21B. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

Dust and Fume Respirators

These respirators are approved for protection against the inhalation of fumes of metals having a TLV of 0.1 milligram per cubic meter, or greater, dusts having a TLV of 0.1 milligram per cubic meter, or greater, and dusts having a TLV of 2.4 million particles per cubic foot, or greater.

1 Willson Nos. 780C and 880C respirators (with R361 filters). Extension of approval BM–2149, issued to Willson Products, Inc., August 7, 1942, under schedule 21. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

2. Willson WHG–DFM, WHGW–DFM and THGW–DFM respirators (with DFM filter). Approval BM–2155, issued to Willson Products, Inc., March 1, 1948, under schedule 21. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

3. M–S–A® cat. No. 10–86431 respirator (with type "S" filters). Approval BM–2169, issued to Mine Safety Appliances Co., December 8, 1955, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

4 A.O. R5056 and R6056 respirators (with R56 filters). Extension of approval BM–2163, issued to American Optical Co., February 28, 1957, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

5. Pulmosan C–261 respirator (with C–261–7 filter). Approval BM–2171, issued to Pulmosan Safety Equipment Corp., February 28, 1957, under sched-

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/15

ule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater.)

6. Safeline 5241 respirator (with 5971 filters). Extension of approval BM–2163, issued to Safeline Products, January 24, 1964, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)
7. A.O. R9166 respirator (with R166 filters). Approval BM–21A–84, issued to American Optical Co., November 13, 1964, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)
8. Welsh No. 7507 respirator (with 7500–7 filters). Approval BM–21A–86, issued to Welsh Manufacturing Co., December 11, 1964, under schedule 21A. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)
9. A.O. R8156 respirator (with R156 filter). Approval BM–21B–87, issued to American Optical Co., February 23, 1965, under schedule 21B. (Also approved for protection against inhalation of mists of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater.)

Mist Respirators

No respirators have been approved for protection against mists only, but several active filter-type respirators have been approved for mists in combination with other dispersoids, as follows:

	Type or item No.
Approved for protection against inhalation of mists of materials having a TLV of 0.1 mg/m³ or greater, or 2.4 million particles per ft³ or greater	
Gas masks	AE, BE, ABE, CE, N, BEF, ABEF
Dispersoid (dust, fume, and mist) respirators	
Pneumoconiosis-producing and nuisance dust respirators	4
Dust respirators	3–4, 7–8, 12–15, 17–18, 29–30
Dust and fume respirators	1–4, 6–9
Nonemergency gas respirators (chemical-cartridge respirators) Type BE, Dispersoid and organic-vapor respirators	1–2, 7–8, 12, 14–18, 20, 22–25
Approved for protection against inhalation of mists of materials having a TLV of 0.1 mg/m³, or greater:	
Dispersoid (dust, fume, and mist) respirators	
Dust respirators	6, 16, 19
Dust and fume respirators	5
Approved for protection against inhalation of mists of paints, lacquers, and enamels having a TLV of 0.1 mg/m³, or greater	
Nonemergency gas respirators (chemical-cartridge respirators): Type BE, Dispersoid and organic-vapor respirators	10–19, 21–22, 24–26

NONEMERGENCY GAS RESPIRATORS (CHEMICAL-CARTRIDGE RESPIRATORS) APPROVED UNDER SCHEDULES 23, 23A, AND 23B

Type B: Organic-Vapor Respirators

These respirators are approved for respiratory protection in atmospheres that are not immediately dangerous to life and that contain not more than 0.1 volume percent of organic vapors.

1. M–S–A® cat. No. 10–83556 chemical-cartridge respirator (with GMA–10–44135 cartridges). Approval BM–2301, issued to Mine Safety Appliances Co., June 4, 1945, under schedule 23.
2. Willson No. 731C chemical-cartridge respirator (with No. 31 cartridges). Approval BM–2303, issued to Willson Products, Inc., July 30, 1946, under schedule 23.
3. Binks type 8 twin-cartridge respirator (with 40–13 cartridges). Extension of approval BM–2301, issued to Binks Manufacturing Co., June 18, 1948, under schedule 23.
4. A.O. R5051 and R6051 chemical-cartridge respirators (with R51 cartridges). Approval BM–2304, issued to American Optical Co., July 19, 1949, under schedule 23, and September 18, 1957, under schedule 23A.
5. DeVilbiss MSE–502 chemical-cartridge respirator (with MSE–506 chemical cartridges). Extension of approval BM–2304, issued to The DeVilbiss Co., October 19, 1950, under schedule 23, and September 18, 1957, under schedule 23A. (Respirator is inactive but DeVilbiss MSE–506 (BM–2304) cartridges are available for use with DeVilbiss 47736–010 (BM–23B–13) respirator.)
6. Cesco No. 99 chemical-cartridge respirator (with cat. No. 99–S cartridges). Approval BM–2307, issued to Chicago Eye Shield Co., October 16, 1952, under schedule 23.
7. Pulmosan No. C–256 chemical-cartridge respirator (with CMA cartridge). Approval BM–2309, issued to Pulmosan Safety Equipment Corp., September 3, 1953, under schedule 23.
8. Willson Nos. 741C and 841C chemical-cartridge respirators (with No. 41 cartridges). Extension of approval BM–2308, issued to Willson Products, Inc., September 3, 1954, under schedule 23.
9. M–S–A cat. No. 10–76853 chemical-cartridge respirator (with GMA–10–76883 cartridge). Approval BM–2310, issued to Mine Safety Appliances Co., October 14, 1955, under schedule 23A.
10. Welsh No. 7501 chemical-cartridge respirator (with 7500–1 cartridges). Approval BM–23B–17, issued to Welsh Manufacturing Co., September 9, 1963, under schedule 23B.
11. Safeline 5211 chemical-cartridge respirator (with 5961 chemical cartridges). Extension of ap-

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/16

proval BM–2304, issued to Safeline Products, January 24, 1964, under schedule 23A.

12. A.O. R9051 chemical-cartridge respirator (with R51 cartridges). Approval BM–23B–19, issued to American Optical Co., November 10, 1964, under schedule 23B.
13. A.O. RS151 chemical-cartridge respirator (with R151 cartridge). Approval BM–23B–24, issued to American Optical Co., January 28, 1965, under schedule 23B.
14. Glendale chemical-cartridge respirator (with organic-vapor cartridges). Approval BM–23B–25, issued to Glendale Optical Co., Inc., January 28, 1965, under schedule 23B.

Type BE: Dispersoid and Organic-Vapor Respirators

These respirators are approved for respiratory protection in atmospheres that are not immediately dangerous to life and that contain either (1) dispersoids (type of dispersoid stated for each respirator listed below) of materials having a TLV of 0.1 milligram per cubic meter, or greater, or 2.4 million particles per cubic foot, or greater, or (2) not more than 0.1 volume-percent of organic vapors, or (3) both.

1. A.O. R5055 and R6055 chemical-cartridge respirators (with R55 filter-adsorbent cartridges). Approval BM–2305, for dusts, mists, and organic vapors, issued to American Optical Co., February 3, 1950, under schedule 23, and September 18, 1957, under schedule 23A.
2. Safeline 5235 respirator (with 5969 filter-adsorbent cartridges). Extension of approval BM–2305 for dusts, mists, and organic vapors, issued to Safeline Products, January 24, 1964, under schedule 23A.
3. M–S–A® cat. No. 10–48334 respirator (with GMA–10–46727 cartridges and 10–17034 filters). Approval BM–2306, for fumes and organic vapors, issued to Mine Safety Appliances Co., October 17, 1951, under schedule 23.
4. Willson Nos. 741CD and 841CD chemical-cartridge respirators (with No. 41 cartridges and R415 filters). Approval BM–2308 for dusts and organic vapors, issued to Willson Products, Inc., November 24, 1952, under schedule 23.
5. M–S–A® cat. No. 10–85556 chemical-cartridge respirator (with GMA–10–44135 cartridges and 10–73654 filters). Extension of approval BM–2301, for toxic dusts and organic vapors, issued to Mine Safety Appliances Co., June 24, 1953, under schedule 23.
6. M–S–A® cat. No. 10–76853 chemical-cartridge respirator (with GMA–10–76883 cartridge and 10–76887 filter). Extension of approval BM–2310, for toxic dusts and organic vapors, issued to Mine Safety Appliances Co., January 21, 1957, under schedule 23A.
7. A.O. R5561 and R6561 chemical-cartridge respirators (with R561 filter-adsorbent cartridges). Approval BM–2311, for dusts, fumes, mists, and organic vapors, issued to American Optical Co., October 2, 1957, under schedule 23A.
8. Safeline 5275 respirator (with 5985 filter-adsorbent cartridges). Extension of approval BM–2311 for dusts, fumes, mists, and organic vapors, issued to Safeline Products, January 24, 1964, under schedule 23A.
9. Pulmosan No. C–259 chemical-cartridge respirator (with CMA cartridge and C259–7 filter). Extension of approval BM–2309, for dusts and organic vapors, issued to Pulmosan Safety Equipment Corp., August 26, 1958, under schedule 23A.
10. M–S–A® cat. No. 10–84306 paint-spray respirator (with GMA–10–44135 cartridges and 10–84313 filters). Approval BM–23B–12 for organic vapors and paint, lacquer, and enamel mists, issued to Mine Safety Appliances Co., December 23, 1960, under schedule 23B.
11. Binks cat. No. 40–80 paint-spray respirator (with cat. No. 40–13 cartridges and cat. No. 40–62 filters). Extension of approval BM–23B–12, issued to Binks Manufacturing Co., December 23, 1960, under schedule 23B.
12. A.O. R5051P and R6051P respirators (with R51 chemical cartridges and R49 filters). Approval BM–23B–13, for organic vapors, dusts, pneumoconiosis-producing and chromic acid mists, and paint, lacquer, and enamel mists, issued to American Optical Co., December 23, 1960, under schedule 23B.
13. Willson No. 941P paint-spray respirator (with No. 41 chemical cartridges and R546 filters). Approval BM–23B–14, for organic vapors and paint, lacquer, and enamel mists, issued to Willson Products Div., Ray-O-Vac Co., December 23, 1960, under schedule 23B.
14. A.O. R5091P and R6091P respirators (with R91 filter-adsorbent cartridges). Approval BM–23B–15, for organic vapors, dusts, pneumoconiosis-producing and chromic acid mists, and paint, lacquer, and enamel mists, issued to American Optical Co., December 23, 1960 under schedule 23B.
15. DeVilbiss 47736–010 respirator (with MSP–506 chemical cartridges and MSP–403 filters). Extension of approval BM–23B–13, for organic vapors, dusts, pneumoconiosis-producing and chromic acid mists, and paint, lacquer, and enamel mists, issued to The DeVilbiss Co., January 4, 1961, under schedule 23B.
16. Safeline 5215 respirator (with 5961 chemical cartridges and 5919 filters). Extension of approval BM–23B–13, for organic vapors, dusts, pneumoconiosis-producing and chromic acid mists, and paint, lacquer, and enamel mists, issued to Safeline Products, January 24, 1964, under schedule 23B

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/17

17. DeVilbiss MSP–502 respirator (with No. 43652–009 filter-adsorbent cartridge). Extension of approval BM–23B–15, issued to The DeVilbiss Co., January 4, 1961, under schedule 23B. (Respirator is inactive, but DeVilbiss 43652–009 (BM–23B–15) filter-adsorbent cartridges are available for use with DeVilbiss 47736–010 respirator.)
18. Safeline 5271 respirator (with 5981 filter-adsorbent cartridges). Extension of approval BM–23B–15 for organic vapors, dusts, pneumoconiosis-producing and chromic acid mists, and paint, lacquer, and enamel mists, issued to Safeline Products, January 24, 1964, under schedule 23B.
19. Pulmosan C–251 paint spray respirator (with CMA cartridge and C–251–7 filter). Approval BM–23B–16, for organic vapors and paint, lacquer, and enamel mists, issued to Pulmosan Safety Equipment Corp., April 7, 1961, under schedule 23B.
20. Welsh No. 7511 chemical-cartridge respirator (with 7500–1 cartridges and 7500–6 filters). Approval BM–23B–17, for organic vapors and dusts and mists, issued to Welsh Manufacturing Co., September 9, 1963, under schedule 23B.
21. Welsh No. 7531 chemical-cartridge respirator (with 7500–1 cartridges and 7500–10 filters). Approval BM–23B–18, for organic vapors and mists of paints, lacquers, and enamels, issued to Welsh Manufacturing Co., June 15, 1964, under schedule 23B.
22. A.O. R9051P respirator (with R51 chemical cartridges and R49 filters). Approval BM–23B–20, for organic vapors, dusts, pneumoconiosis-producing and chromic acid mists, and paint, lacquer, and enamel mists, issued to American Optical Co., December 24, 1964, under schedule 23B.
23. A.O. R9055 respirator (with R55 filter-adsorbent cartridges). Approval BM–23B–21 for dusts, mists, and organic vapors, issued to American Optical Co., December 24, 1964, under schedule 23B.
24. A.O. R9091P respirator (with R91 filter-adsorbent cartridges). Approval BM–23B–22 for organic vapors, dusts, pneumoconiosis-producing and chromic acid mists, and paint, lacquer, and enamel mists, issued to American Optical Co., December 24, 1964, under schedule 23B.
25. A.O. R9561 respirator (with R561 filter-adsorbent cartridges). Approval BM–23B–23 for dusts, fumes, mists, and organic vapors, issued to American Optical Co., December 24, 1964, under schedule 23B.
26. A.O. R8155 respirator (with R155 filter). Approval BM–23B–26 for dusts, mists, and organic vapors, issued to American Optical Co., July 9, 1965, under schedule 23B.

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/18

BIBLIOGRAPHY

1. Bureau of Mines. Procedures for Establishing a List of Permissible Self-Contained Mine Rescue Breathing Apparatus. Fees, Character of Tests, and Conditions Under Which Mine Rescue Breathing Apparatus Will Be Tested. Sched. 13, Mar. 5, 1919, 13 pp.; sched. 13A (rev. of sched. 13), Jan. 21, 1930, 12 pp.; sched. 13B (rev. of sched. 13A), Aug. 12, 1935, 12 pp.; sched. 13C (rev. of sched. 13B), July 9, 1946, 11 pp.; sched. 13D (rev. of sched. 13C), Sept. 22, 1956, 12 pp. (Code of Federal Regulations reference: 30 CFR, part 11).
2. ———. Procedure for Establishing a List of Permissible Gas Masks, Fees, Character of Tests, and Conditions Under Which Gas Masks Will Be Tested. Sched. 14, May 22, 1919, 13 pp.; suppl. to sched. 14, Jan. 6, 1920, 4 pp.; sched. 14A (rev. of sched. 14), Aug. 25, 1923, 15 pp.; sched. 14B (rev. of sched. 14A), Aug. 7, 1930, 13 pp.; sched. 14C (rev. of sched. 14B), Aug. 20, 1934, 17 pp.; sched. 14D (rev. of sched. 14C), May 9, 1935, 17 pp.; sched. 14E (rev. of sched. 14D), Dec. 24, 1941, 19 pp.; sched. 14F (rev. of sched. 14E), Apr. 23, 1955, 9 pp. (Code of Federal Regulations reference: 30 CFR, part 13).
3. ——— Procedure for Testing Hose Masks for Permissibility Sched. 19, Apr. 28, 1927, 8 pp.; suppl. to sched. 19, Aug. 20, 1934, 3 pp. Procedure for Testing Supplied-Air Respirators for Permissibility. Sched. 19A (rev. of sched. 19 and suppl., enlarged to include special hose masks without blowers, air-line respirators, and abrasive blasting helmets, hoods, or masks), Aug. 9, 1937, 21 pp.; sched. 19A as amended in the Federal Register on Mar. 13, 1948, to include type C, demand-class supplied-air respirators; sched. 19B (rev. of sched. 19A), Apr. 19, 1955, 14 pp.; sched. 19B as amended in the Federal Register on Nov. 6, 1963, to include pressure-demand type C supplied-air respirators, to increase the maximum allowable length of air hose for type A supplied-air respirators from 150 to 300 feet, and to permit the use of motor-operated as well as hand-operated blowers to furnish air for type A supplied-air respirators (Code of Federal Regulations reference: 30 CFR, part 12).
4. ———. Procedure for Testing Filter-Type Dust, Fume, and Mist Respirators for Permissibility. Sched. 21, Aug. 20, 1934, 14 pp.; sched. 21A (rev. of sched. 21), Apr. 19, 1955, 7 pp.; sched. 21B (rev. of sched. 21A, Jan. 19, 1965, amended Mar. 23, 1965, 11 pp. (Code of Federal Regulations reference: 30 CFR, part 14).
5. ———. Procedure for Testing Nonemergency Gas Respirators (Chemical Cartridge Respirators) for Permissibility. Sched. 23, Nov. 13, 1944, 10 pp., sched. 23A (rev. of sched. 23), Apr. 23, 1955, 7 pp.; sched. 23B (rev. of sched. 23A), Aug. 14, 1959, 8 pp. (Code of Federal Regulations reference: 30 CFR, part 14a).

U.S. Bureau of Mines, Respiratory Protective Devices Approved as of October 1, 1965 (1966)
ACL Doc 25222 · Page 19 of 26
Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/19

APPENDIX A—INACTIVE DEVICES

SELF-CONTAINED BREATHING APPARATUS APPROVED UNDER SCHEDULES 13, 13A, 13B, 13C, AND 13D

1. Gibbs oxygen breathing apparatus. Approval BM–1300, issued to Mine Safety Appliances Co., January 15, 1920, under schedule 13.
2. Paul oxygen breathing apparatus. Approval BM–1301, originally issued to American Atmos Corp., January 15, 1920, later transferred to Mine Safety Appliances Co., under schedule 13.
3. Fleuss-Davis Proto oxygen breathing apparatus. Approval BM–1302, issued to Siebe, Gorman & Co. (Ltd.), February 7, 1924, under schedule 13.
4. Draeger oxygen breathing apparatus (1924 type). Approval BM–1304, issued to Draegerwerk, August 1, 1929, under schedule 13.
5. McCaa ½-hour oxygen breathing apparatus. Approval BM–1305, issued to Mine Safety Appliances Co., April 1, 1931, under schedule 13A.
6. Chemox oxygen breathing apparatus (¾-hour self-contained oxygen-generating breathing apparatus). Approval BM–1307, issued to Mine Safety Appliances Co., October 3, 1946, under schedule 13C. (See item 10 in active devices for conversion kit to change ¾-hour Chemox to 1-hour Chemox.)

GAS MASKS APPROVED UNDER SCHEDULES 14, 14A, 14B, 14C, 14D, 14E, AND 14F

Type A: Acid-Gas Masks

1. M–S–A® hydrocyanic-acid-gas mask. Approvals BM–1413 (regular-size canister) and BM–1414 (supersize canister), issued to Mine Safety Appliances Co., December 9, 1933, under schedule 14B.
2. M–S–A® chlorine-gas mask. Approval BM–1422, issued to Mine Safety Appliances Co., May 26, 1939, under schedule 14D.
3. Willson chlorine-gas mask. Approval BM–1426, issued to Willson Products, Inc., March 8, 1940, under schedule 14D.
4. Bullard chlorine-gas mask. Extension of approval BM–1426, issued to E. D. Bullard Co., May 20, 1947, under schedule 14D.
5. Bullard hydrocyanic acid-gas mask. Extension of approval BM–1428, issued to E. D. Bullard Co., May 20, 1947, under schedule 14D.
6. Bullard chlorine-gas mask. Approval BM–1430, issued to E. D. Bullard Co., February 10, 1941, under schedule 14D.
7. Bullard hydrocyanic acid-gas mask. Approval BM–1431, issued to E. D. Bullard Co., February 10, 1941, under schedule 14D.
8. Bullard chlorine-gas mask. Extension of approval BM–1453, issued to E. D. Bullard Co., June 28, 1957, under schedule 14E.

Type B: Organic-Vapor Masks

1. M–S–A® organic-vapor mask. Approval BM–1415, issued to Mine Safety Appliances Co., July 28, 1936, under schedule 14D.
2. Bullard organic-vapor mask. Approval BM–1419, issued to E. D. Bullard Co., July 15, 1938, under schedule 14D.
3. M–S–A® organic-vapor mask with supersize G.M.A. canister. Approval BM–1441, issued to Mine Safety Appliances Co., August 2, 1946, under schedule 14E.
4. Bullard organic-vapor mask. Extension of approval BM–1423, issued to E. D. Bullard Co., May 20, 1947, under schedule 14D.
5. Bullard organic-vapor mask with large canister. Extension of approval BM–1437, issued to E. D. Bullard Co., May 20, 1947, under schedule 14E.

Type AB: Acid-Gas and Organic-Vapor Masks

1. M–S–A® acid-gas and organic-vapor mask. Approval BM–1409, issued to Mine Safety Appliances Co., January 23, 1930, under schedule 14A.
2. M–S–A® hydrogen sulfide and petroleum-vapor mask. Approval BM–1410, issued to Mine Safety Appliances Co., July 16, 1930, under schedule 14A.
3. M–S–A® hydrogen sulfide and petroleum-vapor mask. Approval BM–1412, issued to Mine Safety Appliances Co., September 14, 1931, under schedule 14B.
4. M–S–A® hydrogen sulfide and petroleum-vapor mask. Approvals BM–1416 and BM–1416A, issued to Mine Safety Appliances Co., June 16, 1937, and July 1, 1937, respectively, under schedule 14D.
5. Bullard hydrogen sulfide and petroleum-vapor mask. Extension of approval BM–1444, issued to E. D. Bullard Co., April 15, 1954, under schedule 14E.

U.S. Bureau of Mines, Respiratory Protective Devices Approved as of October 1, 1965 (1966)
Published by AsbestosClaims.Law
ACL Doc 25222 · Page 20 of 26
asbestosclaims.law/library/25222/20

6. Bullard acid-gas and organic-vapor mask. Extension of approval BM-1450, issued to E. D. Bullard Co., April 15, 1954, under schedule 14E.

Type ABE: Acid-Gas, Organic-Vapor, Toxic-Dust, Fume, Mist, and Fog Masks

1. Bullard acid-gas, organic-vapor, toxic-dust, fume, mist, and fog mask. Extension of approval BM-1451, issued to E. D. Bullard Co., May 29, 1951, under schedule 14E.

Type ABE: Acid-Gas, Organic-Vapor, Dust, Mist, and Fog Masks

1. M-S-A® gas mask for hydrogen sulfide gas, petroleum vapors, and dusts, mists, and fogs. Approval BM-14F-61, issued to Mine Safety Appliances Co., March 29, 1961, under schedule 14F.

Type C: Ammonia-Gas Masks

1. M-S-A® ammonia-gas mask. Approval BM-1401, issued to Mine Safety Appliances Co., April 10, 1920, under schedule 14.
2. LaFrance ammonia-gas mask. Extension of approval BM-1401, issued to American-LaFrance & Foamite Industries, Inc., June 23, 1927, under schedule 14.
3. M-S-A® ammonia-gas mask. Approval BM-1404, issued to Mine Safety Appliances Co., March 10, 1926, under schedule 14A.
4. M-S-A® ammonia-gas mask. Approval BM-1406, issued to Mine Safety Appliances Co., February 14, 1928, under schedule 14A.
5. McDonald ammonia-gas mask. Extension of approval BM-1406, issued to B. F. McDonald Co., May 17, 1938, under schedule 14A.
6. LaFrance ammonia-gas mask. Extension of approval BM-1406, issued to American-LaFrance & Foamite Industries, Inc., February 20, 1946, under schedule 14A.
7. Davis ammonia-gas mask. Approval BM-1408, orignally issued to Bullard-Davis, Inc., December 19, 1928, later transferred to Davis Emergency Equipment Co., Inc., under schedule 14A.
8. LaFrance ammonia-gas mask. Extension of approval BM-1408, issued to American-LaFrance & Foamite Industries, Inc., November 18, 1930, under schedule 14A.
9. Willson ammonia-gas mask. Approval BM-1425, issued to Willson Products, Inc., December 20, 1939, under schedule 14D.
10. Bullard ammonia-gas mask. Extension of approval BM-1425, issued to E. D. Bullard Co., May 20, 1947, under schedule 14D.
11. Bullard ammonia-gas mask. Approval BM-1429, issued to E. D. Bullard Co., February 10, 1941, under schedule 14D.
12. Bullard ammonia-gas mask with large canister. Extension of approval BM-1438, issued to E. D. Bullard Co., May 20, 1947, under schedule 14E.
13. M-S-A® ammonia-gas mask with supersize GMD canister. Approval BM-1442, issued to Mine Safety Appliances Co., August 29, 1946, under schedule 14E.
14. M-S-A® ammonia-gas mask. Approval BM-1449, issued to Mine Safety Appliances Co., December 19, 1950, under schedule 14E.
15. LaFrance ammonia-gas mask. Extension of approval BM-1449, issued to American-LaFrance-Foamite Corp., March 9, 1951, under schedule 14E.

Type D: Carbon Monoxide-Gas Masks

1. M-S-A® self-rescuer. Approval BM-1402, issued to Mine Safety Appliances Co., March 6, 1924, under schedule 14A.

Type N: Universal Gas Masks

Universal Gas Masks With Filters That Afford Respiratory Protection Against Smokes From Ordinary Fires and Limited Respiratory Protection Against Dusts, Fumes, Mists, and Fogs

1. M-S-A® All-Service universal gas mask. Approval BM-1403, issued to Mine Safety Appliances Co., July 1, 1925, under schedule 14A.
2. M-S-A® All-Service gas mask. Approval BM-1405, issued to Mine Safety Appliances Co., August 24, 1928, under schedule 14A.
3. McDonald All-Service gas mask. Extension of approval BM-1405, issued to B. F. McDonald Co., October 2, 1937, under schedule 14A.
4. Willson WUG-N1 universal gas mask. Approval BM-1432, issued to Willson Products, Inc., February 2, 1942, under schedule 14E.
5. Bullard universal gas mask. Extension of approval BM-1432, issued to E. D. Bullard Co., May 20, 1947, under schedule 14E.
6. Bullard universal gas mask. Approval BM-1439, issued to E. D. Bullard Co., May 16, 1945, under schedule 14E.
7. Bullard Multigas universal gas mask. Extension of approval BM-1443, issued to E. D. Bullard Co., January 12, 1949, under schedule 14E.
8. Bullard Multigas universal gas mask with window indicator canister. Extension of approval BM-1443A, issued to E. D. Bullard Company, September 3, 1959, under schedule 14E.

Published by AsbestosClaims.Law
ACL Doc 25222 · Page 21 of 26
asbestosclaims.law/library/25222/21

Universal Gas Masks With High-Efficiency Filters That Afford Respiratory Protection Against Toxic Dusts, Fumes, Mists, Fogs, and Smokes

1. Willson WUG-N2 universal gas mask. Approval BM-1433, issued to Willson Products, Inc., September 9, 1942, under schedule 14E.
2. M-S-A® All-Service Model S gas mask. Approval BM-1434, issued September 30, 1942, and approval BM-1434A with window indicator canister, issued June 9, 1958, to Mine Safety Appliances Co., under schedule 14E.
3. LaFrance Protexall gas mask. Extension of approval BM-1434, issued to American-LaFrance & Foamite Industries, Inc., March 2, 1943, and extension of approval BM-1434A with window indicator cansiter, issued July 28, 1958, under schedule 14E.
4. Bullard universal gas mask. Approval BM-1440, issued to E. D. Bullard Co., May 16, 1945, under schedule 14E.
5. Bullard universal gas mask. Extension of approval BM-1433, issued to E. D. Bullard Co., May 20, 1947, under schedule 14E.
6. Bullard Smokeater universal gas mask. Extension of approval BM-1445, issued to E. D. Bullard Co., December 7, 1949, under schedule 14E.
7. Bullard Smokeater universal gas mask with window indicator canister. Extension of approval BM-1445A, issued to E. D. Bullard Co., September 3, 1959, under schedule 14E.

SUPPLIED-AIR RESPIRATORS APPROVED UNDER SCHEDULES 19, 19A, THE AMENDMENT TO SCHEDULES 19A, AND 19B

Type A: Hose Masks With Blowers

1. M-S-A® combination hose mask. Approval BM-1901, issued to Mine Safety Appliances Co., May 29, 1929, under schedule 19.
2. Davis hose mask. Approval BM-1902, issued to Davis Emergency Equipment Co., Inc., March 30, 1931, under schedule 19.
3. LaFrance fresh-air mask. Extension of approval BM-1905A, issued to American-LaFrance & Foamite Industries, Inc., September 20, 1937, under schedule 19.
4. Acme supplied-air respirator, type A. Approval BM-1910, issued to Acme Protection Equipment Co., July 16, 1938, under schedule 19A.

Type C: Air-Line Respirators

Continuous-Flow-Class Air-Line Respirators That Supply Air to Interior of Facepiece Continuously at a Set Rate

1. M-S-A® air-line respirator. Approval BM-1909, issued to Mine Safety Appliances Co., July 15, 1938, under schedule 19A.
2. M-S-A® air-line respirator. Approval BM-1909A issued to Mine Safety Appliances Co., May 19, 1947, under schedule 19A.
3. Willson air-line respirator, models GA, GAF, GA2, GB, and GC. Approval BM-1912, issued to Willson Products, Inc., October 7, 1938, under schedule 19A.
4. Cesco No. 602 Healthguard direct-air mask. Approval BM-1917, issued to Chicago Eye Shield Co., August 17, 1940, under schedule 19A.
5. M-S-A® lead hood. Approval BM-1926, issued to Mine Safety Appliances Co., May 9, 1951, under schedule 19A.
6. McDonald lead hood. Extension of approval BM-1926, issued to B. F. McDonald Co., September 4, 1951, under schedule 19A.
7. McDonald lead-dust helmets Nos. 177A100 and 177A100-1. Approval BM-1927, issued to B. F. McDonald Co., October 3, 1951, under schedule 19A.
8. McDonald Dustfoe air-line respirator. Approval BM-1928, issued to B. F. McDonald Co., August 9, 1954, under schedule 19A.
9. M-S-A® Dustfoe air-line respirator. Extension of approval BM-1928, issued to Mine Safety Appliances Co., October 4, 1954, under schedule 19A.
10. Bullard Lite-Weight helmet, type C supplied-air respirator. Approval BM-1929, issued to E. D. Bullard Co., July 29, 1955, under schedule 19B.
11. M-S-A® Hypertlo Airline Respirator. Approval BM-19B-33, issued to Mine Safety Appliances Company, July 18, 1960, under schedule 19B.

Demand-Class Air-Line Respirators That Supply Air to Interior of Facepiece Only When Wearer Inhales and at a Rate Governed by His Breathing

1. M-S-A® demand-type air-line respirator. Approval BM-1922, issued to Mine Safety Appliances Co., May 27, 1949, under schedule 19A.

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/22

Type CE: Abrasive-Blasting Helmets, Hoods, or Masks

1. M–S–A® abrasive mask. Approval BM–1907, issued to Mine Safety Appliances Co., July 15, 1938, under schedule 19A.
2. M–S–A® abrasive mask. Approval BM–1907A, issued to Mine Safety Appliances Co., May 19, 1947, under schedule 19A.
3. Cesco No. 602 Healthguard mask. Approval BM–1918, issued to Chicago Eye Shield Co., January 4, 1941, under schedule 19A.
4. M–S–A® Blastfoe abrasive helmet. Approval BM–1919, issued to Mine Safety Appliances Co., October 1, 1946, under schedule 19A.
5. McDonald Blastfoe abrasive helmet. Extension of approval BM–1919, issued to B. F. McDonald Co., October 3, 1946, under schedule 19A.
6. M–S–A® abrasive mask. Approval BM–1920, issued to Mine Safety Appliances Co., April 30, 1948, under schedule 19A.
7. METCO abrasive mask. Extension of approval BM–1920, issued to Metallizing Engineering Co., Inc., April 30, 1948, under schedule 19A.
8. Bullard abrasive-blasting helmet No. V. Approval BM–1921, issued to E. D. Bullard Co., September 9, 1948, under schedule 19A.
9. McDonald Blastfoe abrasive helmet. Extension of approval BM–1926, issued to B. F. McDonald Co., September 4, 1951, under schedule 19A.
10. McDonald sandblast helmet No. 177A200 and shotblast helmet No. 177A300. Approval BM–1927, issued to B. F. McDonald Co., October 3, 1951, under schedule 19A.
11. Bullard Lite-weight helmet, Type CE supplied-air respirator. Extension of approval BM–1929, issued to E. D. Bullard Co., April 24, 1956, under schedule 19B.

DISPERSOID (DUST, FUME, AND MIST) RESPIRATORS APPROVED UNDER SCHEDULES 21 AND 21A

Pneumoconiosis-Producing and Nuisance Dust Respirators

1. M–S–A® Comfo respirator. Approval BM–2101, issued to Mine Safety Appliances Co., January 7, 1935, under schedule 21. (Also approved for protection against inhalation of pneumoconiosis-producing, chromic acid, and nuisance mists.)
2. Willson bag respirator No. 300. Approval BM–2102, issued to Willson Products, Inc., January 21, 1935, under schedule 21.
3. Willson bag respirator No. 400. Approval BM–2103, issued to Willson Products, Inc., January 21, 1935, under schedule 21.
4. Pulmosan M–15, pouch-type filter respirator. Approval BM–2104, issued to Pulmosan Safety Equipment Corp., February 9, 1935, under schedule 21.
5. Biever respirator. Approval BM–2105, issued to Standard Safety Equipment Co., March 5, 1935, under schedule 21.
6. Willson bag respirator No. 4. Approval BM–2106, issued to Willson Products, Inc., May 27, 1935, under schedule 21.
7. Pulmosan M–1100 pouch-type filter respirator. Approval BM–2109, issued to Pulmosan Safety Equipment Corp., March 23, 1936, under schedule 21.
8. Cesco No. 90 Healthguard respirator. Approval BM–2113, issued to Chicago Eye Shield Co., December 16, 1936, under schedule 21.
9. McDonald Dustfoe respirator. Approval BM–2115, issued to B. F. McDonald Co., October 8, 1937, under schedule 21.
10. M–S–A® Dustfoe respirator. Extension of approval BM–2115, issued to Mine Safety Appliances Co., November 23, 1937, under schedule 21.
11. Willson bag respirator No. 100. Approval BM–2117 issued to Willson Products, Inc., December 27, 1937, under schedule 21.
12. Willson respirator No. 750. Approval BM–2119, issued to Willson Products, Inc., January 3, 1938, under schedule 21. (Also approved for protection against inhalation of pneumoconiosis-producing, chromic acid, and nuisance mists.)
13. A O R1015 and R2015 respirators. Approval BM–2121, issued to American Optical Co., February 3, 1938, under schedule 21.
14. Pulmosan D–4100 Duo-filter respirator. Approval BM–2120, issued to Pulmosan Safety Equipment Corp., January 12, 1938, under schedule 21.
15. Hygeia Filto-Ring No. 28 respirator. Approval BM–2122, issued to Hygeia Filtering Corp., March 23, 1938, under schedule 21.
16. M–S–A® Comfo respirator. Approval BM–2130, issued to Mine Safety Appliances Co., August 23, 1939, under schedule 21. (Also approved for protection against inhalation of pneumoconiosis-producing, chromic acid, and nuisance mists.)
17. McDonald Dustfoe respirator. Approval BM–2132, issued to B. F. McDonald Co., August 23, 1939, under schedule 21. (Also approved for protection against inhalation of pneumoconiosis-producing, chromic acid, and nuisance mists.)
18. M–S–A® alkali-dust respirator. Approval BM–2136, issued to Mine Safety Appliances Co., December 1, 1939, under schedule 21.
19. A O R9100 respirator. Approval BM–2137, issued to American Optical Co., March 6, 1940, under schedule 21.
20. Willson respirators Nos. 5 and 45. Approval BM–2140, issued to Willson Products, Inc., September 28, 1940, under schedule 21. (Also approved for protection against inhalation of pneumoconiosis-producing, chromic acid, and nuisance mists.)
21. DeVilbiss MSD respirator. Approval BM–2141,

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/23

issued to The DeVilbiss Co., October 3, 1940, under schedule 21.

22. Willson respirator No. 10. Approval BM-2146, issued to Willson Products, Inc., September 11, 1941, under schedule 21.
23. McDonald Clear-Vue Dustfoe respirator. Approval BM-2147, issued to B. F. McDonald Co., July 16, 1942, under schedule 21. (Also approved for protection against inhalation of pneumoconiosis-producing, chromic acid, and nuisance mists.)
24. M-S-A® Clear-Vue Dustfoe respirator. Extension of approval BM-2147, issued to Mine Safety Appliances Co., July 16, 1942, under schedule 21. (Also approved for protection against inhalation of pneumoconiosis-producing, chromic acid, and nuisance mists.)
25. Pulmosan respirator No. M-500. Approval BM-2150, issued to Pulmosan Safety Equipment Corp., September 22, 1944, under schedule 21.
26. Cesco respirator No. 94. Approval BM-2153, issued to Chicago Eye Shield Co., March 23, 1945, under schedule 21.

Toxic-Dust Respirators

1. M-S-A® Comfo respirator. Approval BM-2107, issued to Mine Safety Appliances Co., August 9, 1935, under schedule 21.
2. Pulmosan L-2100 pouch-type filter respirator. Approval BM-2110, issued to Pulmosan Safety Equipment Corp., July 17, 1936, under schedule 21.
3. Willson Rotiform respirator No. 200L. Approval BM-2123, issued to Willson Products, Inc., April 18, 1938, under schedule 21.
4. Willson respirator No. 750L. Approval BM-2125, issued to Willson Products, Inc., October 19, 1938, under schedule 21.
5. McDonald Dustfoe respirator. Approval BM-2126, issued to B. F. McDonald Co., March 10, 1939, under schedule 21.
6. M-S-A® Dustfoe respirator. Extension of approval BM-2126, issued to Mine Safety Appliances Co., March 10, 1939, under schedule 21.
7. A.O. R1016 and R2016 respirators. Approval BM-2138, issued to American Optical Co., March 16, 1940, under schedule 21.
8. Willson respirators Nos. 5L and 45L. Approval BM-2143, issued to Willson Products, Inc., December 19, 1940, under schedule 21.
9. Hygeia Reef No. 12 respirator. Approval BM-2145, issued to Hygeia Filtering Corp., July 15, 1941, under schedule 21.

Dust Respirators

1. Willson bag respirator No. 400L. Approval BM-2108, issued to Willson Products, Inc., September 5, 1935, under schedule 21.
2. Pulmosan ML-3100 pouch-type filter respirator. Approval BM-2112, issued to Pulmosan Safety Equipment Corp., November 30, 1936, under schedule 21.
3. Cesco Healthguard No. 91 respirator. Approval BM-2114, issued to Chicago Eye Shield Co., August 6, 1937, under schedule 21.
4. Cesco Healthguard No. 92 respirator. Approval BM-2116, issued to Chicago Eye Shield Co., November 8, 1937, under schedule 21.
5. Willson respirator No. 752L. Approval BM-2127, issued to Willson Products, Inc., March 10, 1939, under schedule 21.
6. M-S-A® Comfo respirator. Approval BM-2133, issued to Mine Safety Appliances Co., October 13, 1939, under schedule 21.
7. McDonald Dustfoe respirator. Approval BM-2134, issued to B. F. McDonald Co., October 13, 1939, under schedule 21.
8. M-S-A® Dustfoe respirator. Extension of approval BM-2134, issued to Mine Safety Appliances Co., October 13, 1939, under schedule 21.
9. Cesco Healthguard No. 94 respirator. Approval BM-2142, issued to Chicago Eye Shield Co., October 3, 1940, under schedule 21.
10. McDonald Clear-Vue Dustfoe respirator. Approval BM-2148, issued to B. F. McDonald Co., July 21, 1942, under schedule 21.
11. M-S-A® Clear-Vue Dustfoe respirator. Extension of approval BM-2148, issued to Mine Safety Appliances Co., July 21, 1942, under schedule 21.
12. A.O. R5050 and R5050A respirators. Approval BM-2156, issued to American Optical Co., June 23, 1948, under schedule 21, and August 20, 1957, under schedule 21A. (Also approval for protection against inhalation of pneumoconiosis-producing chromic acid, and nuisance mists.)
13. DeVilbiss MSE-501 respirator. Extension of approval BM-2156, issued to The DeVilbiss Co., November 20, 1950, under schedule 21, and September 18, 1957, under schedule 21A. (Also approved for protection against inhalation of pneumoconiosis-producing, chromic acid, and nuisance mists.)
14. M-S-A® Compact Comfo respirator. Approval BM-2164, issued to Mine Safety Appliances Co., October 16, 1950, under schedule 21.
15. M-S-A® Dustfoe #55 respirator. Approval BM-2166, issued to Mine Safety Appliances Co., November 30, 1951, under schedule 21.
16. McDonald Dustfoe #55 respirator. Extension of approval BM-2166, issued to B. F. McDonald Co., December 10, 1951, under schedule 21.

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/24

17. McDonald Dustfoe #66 respirator. Extension of approval BM-2166, issued to B. F. McDonald Co., October 25, 1955, under schedule 21. (Also approved for protection against inhalation of pneumoconiosis-producing, chromic acid, and nuisance mists.)

Dust and Fume Respirators

1. Willson respirator No. 770. Approval BM-2128, issued to Willson Products, Inc., April 15, 1939, under schedule 21.
2. M-S-A® Comfo respirator. Approval BM-2139, issued to Mine Safety Appliances Co., March 27, 1940, under schedule 21.
3. Willson respirator No. 570. Approval BM-2149, issued to Willson Products, Inc., August 7, 1942, under schedule 21. (Also approved for protection against inhalation of dusts that are not significantly more toxic than lead, and pneumoconiosis-producing, chromic acid, and nuisance mists.)
4. Willson respirator No. 750F. Approval BM-2157, issued to Willson Products, Inc., August 12, 1948, under schedule 21.

NONEMERGENCY GAS RESPIRATORS (CHEMICAL-CARTRIDGE RESPIRATORS) APPROVED UNDER SCHEDULES 23 AND 23A

Type B: Organic-Vapor Respirators

1. Willson No. 801 chemical-cartridge respirator. Approval BM-2302, issued to Willson Products, Inc., April 19, 1951, under schedule 23.
2. McDonald Gasfoe chemical-cartridge respirator. Extension of approval BM-2310, issued to B. F. McDonald Co., December 29, 1955, under schedule 23A.

Type BE: Dispersoid and Organic-Vapor Respirators

1. Cesco No. 99DF chemical-cartridge respirator. Extension of approval BM-2307 for toxic dusts and organic vapors, issued to Chicago Eye Shield Co., April 29, 1955, under schedule 23.

Published by AsbestosClaims.Law
asbestosclaims.law/library/25222/25

APPENDIX B.—NAMES AND ADDRESSES OF COMPANIES TO WHICH APPROVALS ON CURRENTLY ACTIVE RESPIRATORY PROTECTIVE DEVICES HAVE BEEN GRANTED

Acme Protection Equipment Co., 1201 Kalamazoo St., South Haven, Mich., 49090.
American Optical Co., Southbridge, Mass., 01551.
Binks Manufacturing Co., 3114 Carroll Ave., Chicago, Ill., 60612.
E. D. Bullard Co., 2680 Bridgeway, Sausalito, Calif., 94965.
Cesco Safety Products, Inc. (formerly Chicago Eye Shield Co.), 2727 West Roscoe St., Chicago, Ill., 60018.
H. S. Cover, Station A, South Bend, Ind., 46614.
Davis Emergency Equipment Co., Inc., 45 Halleck St., Newark, N.J., 07104.
The DeVilbiss Co., Toledo, Ohio, 43601.
The Firewel Company, Inc., Subsidiary of The Aro Corporation, 3695 Broadway, Buffalo, N.Y., 14225.
The Fyr-Fyter Co., 221 Crane St., Dayton, Ohio, 45401.
Glendale Optical Co., 130 Crossways Park Drive, Woodbury, N.Y., 11797.
Globe Safety Products, Inc. (formerly Globe Industries Inc.), 125 Sunrise Place, Dayton, Ohio, 45407.
Metallizing Engineering Co., Inc., 1101 Prospect Ave., Westbury, N.Y., 11590
Mine Safety Appliances Co., 201 North Braddock Avenue Pittsburgh, Pa., 15208
Mine Safety Appliances Co., Ltd., Queenshe Industrial Estate, Glasgow E. 3, Scotland.
Pangborn Corp., Hagerstown, Md., 21740.
Pulmosan Safety Equipment Corp., 644 Pacific St., Brooklyn, N.Y., 12217.
Rite Hardware Manufacturing Co., 540 West Chevy Chase Drive, Glendale, Calif., 91209.
Safeline Products, Post Office Box 50, Putnam, Conn., 06260.
Scott Air-Pak, Ltd., 2254 South Sheridan Way, Clarkson, Ontario, Canada.
Scott Aviation Corp., Lancaster, N.Y., 14086.
U.S. Divers Co., 3323 West Warner Ave., Santa Ana, Calif., 92700
W. W. Sly Manufacturing Co., 4735 Train Ave., Cleveland, Ohio, 44102.
Welsh Manufacturing Co., 9 Magnolia St., Providence, R.I., 02909.
Willson Products Division, The Electric Storage Battery Co. (formerly Willson Products Division, Ray-O-Vac Co., and Willson Products, Inc.), P.O. Box 622, Reading, Pa., 19603

U.S. GOVERNMENT PRINTING OFFICE 1966

U.S. Bureau of Mines, Respiratory Protective Devices Approved as of October 1, 1965 (1966)
Published by AsbestosClaims.Law
ACL Doc 25222 · Page 26 of 26
asbestosclaims.law/library/25222/26