

Information Circular 8559

**Respirators Approved  
by the Bureau of Mines  
as of May 24, 1972**

**A Revision of Information Circular 8436**

By E. J. Kloos and R. H. Schutz  
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**UNITED STATES DEPARTMENT OF THE INTERIOR**  
Rogers C. B. Morton, Secretary

**BUREAU OF MINES**  
Elburt F. Osborn, Director

*II*

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IV



RESPIRATORS APPROVED BY THE BUREAU OF MINES  
AS OF MAY 24, 1972

A Revision of Information Circular 8436

by

E. J. Kloos<sup>1</sup> and R. H. Schutz<sup>2</sup>

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ABSTRACT

This publication lists devices approved jointly by the Secretary of Interior and the Secretary of Health, Education, and Welfare, as of May 24, 1972, under provisions of Section 11.2, Part 11, Subchapter B of Chapter 1, Title 30, Code of Federal Regulations (37 F.R. 6244, March 25, 1972), for use in mines as respiratory protection in oxygen-deficient atmospheres, and in gases, vapors, dusts, fumes, and mists. Included are self-contained breathing apparatus, gas masks, and supplied-air, dust, fume, mist, and chemical-cartridge respirators. Names and addresses of manufacturers appear in the appendix.

INTRODUCTION

This Bureau of Mines publication, a revision of Information Circular 8436,<sup>3</sup> lists respirators approved by the Bureau as of May 24, 1972. The Secretary of Interior and the Secretary of Health, Education, and Welfare have generally restricted use of respirators in hazardous mine atmospheres to those most recently approved (Section 11.2, Part 11, Subchapter B of Chapter 1, Title 30, Code of Federal Regulations, 37 F.R. 6244, March 25, 1972). The newer devices are usually more efficient and comfortable than older approved devices. Therefore, only those respirators approved under Bureau of Mines Schedules 14F for gas masks, 19B for supplied-air respirators, 21B for dust, fume, and mist respirators, and 23B for chemical cartridge respirators are listed. An exception has been made only for self-contained breathing apparatus: All breathing apparatus approved under Schedules 13 through 13E are listed.

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<sup>3</sup>Schutz, R. H., and E. J. Kloos. Respiratory Protective Devices Approved by the Bureau of Mines as of December 31, 1968. A Revision of Information Circular 8281. BuMines Inf. Circ. 8436, 1969, 32 pp.

It is important to remember the following provisions concerning the use of respirators:

1. Respirators shall not be substituted for environmental control measures in the active workings.
2. Respirators shall be maintained in an approved condition.
3. Respirators shall be selected and used in strict compliance with the limitations specified on the approval label.

The following approved devices, approved as of May 24, 1972, shall be used as respiratory protection, where applicable, against oxygen deficiency, gases, vapors, dusts, fumes, and mists, to comply with the Federal Coal Mine Health and Safety Act of 1969. Devices approved after May 24, 1972, will be listed in subsequent publications.

SELF-CONTAINED BREATHING APPARATUS

| Apparatus                                        | Approval No.   | Breathing gas source        | Approved service life | Type of apparatus                                                                              |
|--------------------------------------------------|----------------|-----------------------------|-----------------------|------------------------------------------------------------------------------------------------|
| M-S-A Cat. No. 70001 McCaa.....                  | 1303           | Compressed oxygen           | 2 hours...            | Closed circuit.                                                                                |
| M-S-A Cat. Nos. 48439 and 458313.....            | 1303S          | .....do.....                | .....do.....          | Do.                                                                                            |
| M-S-A Chemox Cat. Nos. 96578 and 458310..        | 1307           | Oxygen-generating canister. | 1 hour....            | Do.                                                                                            |
| Scott Air-Pak Model No. 6000A2MS.....            | 1308           | Compressed air...           | 1/2 hour..            | Open-circuit demand.                                                                           |
| Scott Air-Pak Model No. 6000A2MSP.....           | 1308, 13D-08   | .....do.....                | .....do.....          | Open-circuit demand and pressure-demand.                                                       |
| Scott Air-Pak I Model No. 900000 series..        | 13D-08, 13E-08 | .....do.....                | .....do.....          | Open-circuit demand.                                                                           |
| Scott Air-Pak II Model No. 900014 series.        | 13D-08, 13E-08 | .....do.....                | .....do.....          | Open-circuit demand and pressure-demand.                                                       |
| M-S-A Cat. No. 95766.....                        | 13D-10         | .....do.....                | .....do.....          | Open-circuit demand.                                                                           |
| M-S-A Cat. Nos. 93181 and 95767.....             | 13D-10         | .....do.....                | .....do.....          | Open-circuit pressure-demand.                                                                  |
| M-S-A Cat. Nos. 95066 and 457153.....            | 13E-10         | .....do.....                | .....do.....          | Open-circuit demand.                                                                           |
| M-S-A Cat. No. 95069.....                        | 13E-10         | .....do.....                | .....do.....          | Open-circuit pressure-demand.                                                                  |
| Globe Guardsman part Nos. 2275-2GA and 2295-2GA. | 13D-11         | .....do.....                | .....do.....          | Open-circuit demand.                                                                           |
| Globe Guardsman part No. 2526-2.....             | 13E-11         | .....do.....                | .....do.....          | Do.                                                                                            |
| U.S. Divers Model No. 9030.....                  | 13D-12         | .....do.....                | .....do.....          | Do.                                                                                            |
| U.S. Divers Model No. 9030-20.....               | 13D-12         | .....do.....                | .....do.....          | Open-circuit demand and pressure-demand.                                                       |
| Aro Models LP-1-A and LPA.....                   | 13D-14         | Liquid air.....             | 2 hours...            | Open-circuit pressure-demand.                                                                  |
| Aro Models LP-1-0 and LPO.....                   | 13D-15         | Liquid oxygen....           | .....do.....          | Do.                                                                                            |
| Drager BG-174.....                               | 13D-16         | Compressed oxygen           | .....do.....          | Closed circuit.                                                                                |
| M-S-A Cat. No. 95063.....                        | 13E-21         | Compressed air...           | 1/2 hour..            | Open-circuit pressure-demand.                                                                  |
| Scott part Nos. 900002 and 9000015.....          | 13E-22         | .....do.....                | 15 minutes            | Open-circuit demand and pressure-demand.                                                       |
| M-S-A Cat. No. 96359.....                        | 13E-23         | .....do.....                | 10 minutes            | Open-circuit pressure-demand; combination escape apparatus and Type C supplied-air respirator. |
| U.S. Divers Model No. 9038.....                  | 13E-24         | .....do.....                | 1/2 hour..            | Open-circuit demand.                                                                           |
| U.S. Divers Model No. 9038-20.....               | 13E-24         | .....do.....                | .....do.....          | Open-circuit demand and pressure-demand.                                                       |
| Scott part No. 900050.....                       | 13E-25         | Compressed oxygen           | 4 hours....           | Closed circuit.                                                                                |
| Drager BG-174A.....                              | 13E-26         | .....do.....                | 3 hours....           | Do.                                                                                            |

## GAS MASKS

| Gas mask                                                                 | Approval No. | Approved for respiratory protection against-- |          |                  |                  |                |                  |         | Particulate matter |                 |                           |                        |
|--------------------------------------------------------------------------|--------------|-----------------------------------------------|----------|------------------|------------------|----------------|------------------|---------|--------------------|-----------------|---------------------------|------------------------|
|                                                                          |              | Acid gases                                    | Chlorine | Hydrocyanic acid | Hydrogen sulfide | Organic vapors | Petroleum vapors | Ammونيا | Phosphine          | Carbon monoxide | Limited efficiency filter | High efficiency filter |
| Acme 679-1 and 679-1-P                                                   | 14F-18       | -                                             | -        | -                | -                | X              | -                | -       | -                  | -               | -                         | -                      |
| Willson WIG, WIGW, and TIGW (G1).....                                    | 14F-23       | -                                             | -        | -                | -                | X              | -                | -       | -                  | -               | -                         | -                      |
| Welsh 7815 and 7815T.....                                                | 14F-27       | -                                             | X        | -                | -                | -              | -                | -       | -                  | -               | -                         | -                      |
| Willson WLG, WLGW, and TLGW (LG1).....                                   | 14F-37       | -                                             | -        | -                | -                | X              | -                | -       | -                  | -               | -                         | -                      |
| Willson WLG, WLGW, and TLGW (LG4).....                                   | 14F-38       | -                                             | -        | -                | -                | -              | -                | X       | -                  | -               | -                         | -                      |
| Willson WUG, WUGW, and TUGW (N1W).....                                   | 14F-43A      | X                                             | -        | -                | -                | X              | -                | X       | -                  | X               | -                         | -                      |
| Willson WTG, WTCW, and TTGW (LG9).....                                   | 14F-44       | -                                             | -        | -                | X                | -              | X                | -       | -                  | -               | -                         | -                      |
| Willson WUG, WUGW, and TUGW (N2W).....                                   | 14E-45A      | X                                             | -        | -                | -                | X              | -                | X       | -                  | X               | -                         | X                      |
| Willson WLG, WLGW, and TLGW (LG1G).....                                  | 14F-46       | -                                             | -        | -                | -                | X              | -                | -       | -                  | -               | -                         | X                      |
| M-S-A Self-Rescuer 48391.....                                            | 14F-47       | -                                             | -        | -                | -                | -              | -                | -       | -                  | X               | -                         | -                      |
| Willson WLG, WLGW and TLGW (LG3).....                                    | 14F-50       | X                                             | -        | -                | -                | X              | -                | -       | -                  | -               | -                         | -                      |
| Welsh 7814 and 7814T.....                                                | 14F-52       | -                                             | -        | -                | -                | -              | -                | X       | -                  | -               | -                         | -                      |
| Willson WIG, WIGW, and TIGW (G8).....                                    | 14F-53       | -                                             | X        | -                | -                | -              | -                | -       | -                  | -               | -                         | -                      |
| Willson WIG, WIGW, and TIGW (G4).....                                    | 14F-54       | -                                             | -        | -                | -                | -              | -                | X       | -                  | -               | -                         | -                      |
| Acme 677-1, 677-1-P, 677-1W, and 677-1-PW.....                           | 14F-55       | -                                             | -        | -                | -                | -              | -                | X       | -                  | -               | -                         | -                      |
| M-S-A 84867, 86197, 86198, 86171, 457081, and 457077....                 | 14F-56       | -                                             | -        | -                | -                | X              | -                | -       | -                  | -               | X                         | -                      |
| M-S-A 86175, 84891, 84883, 86223, 86224, 457070, 457085, and 457065..... | 14F-57       | -                                             | -        | -                | -                | X              | -                | -       | -                  | -               | X                         | -                      |
| M-S-A 81869, 86199, 86200, 86172, 457082, and 457078....                 | 14F-58       | -                                             | -        | -                | -                | -              | -                | X       | -                  | -               | X                         | -                      |
| M-S-A 86177, 84889, 84881, 86221, 86222, 457072, 457086, and 457066..... | 14F-59       | -                                             | -        | -                | -                | -              | -                | -       | -                  | -               | X                         | -                      |



## DEMAND-FLOW, SUPPLIED-AIR RESPIRATORS

| Respirator                                                                          | Approval<br>No. | Pressure<br>range, psi | Type of respiratory<br>inlet covering |                |
|-------------------------------------------------------------------------------------|-----------------|------------------------|---------------------------------------|----------------|
|                                                                                     |                 |                        | Half-mask                             | Full facepiece |
| Scott 26000 and 800000 series and<br>Scott/Acme 4637-1, 4637-2, and<br>4637-3.....  | 19B-36          | 50-125                 | X                                     | X              |
| M-S-A 46539, 46986, 78315, 84283,<br>93928, 94842, 94843, 94988,<br>and 457165..... | 19B-42          | 30-125                 | X                                     | X              |
| M-S-A 93224, 93225, 93226, 93227,<br>and 457157.....                                | 19B-43          | 30-125                 | X                                     | X              |
| Aro.....                                                                            | 19B-46          | 90-110                 | X                                     | X              |
| Willson GDFW, TDFW, and GD2.....                                                    | 19B-47          | 25-125                 | X                                     | X              |
| SurvivAir 9011-9.....                                                               | 19B-49          | 50-125                 | X                                     | -              |
| SurvivAir 9011-1.....                                                               | 19B-50          | 50-125                 | -                                     | X              |

## PRESSURE-DEMAND FLOW, SUPPLIED-AIR RESPIRATORS

| Respirator          | Approval<br>No. | Pressure<br>range, psi | Type of respiratory inlet covering                                                                        |
|---------------------|-----------------|------------------------|-----------------------------------------------------------------------------------------------------------|
| Aro.....            | 19B-45          | 90-110                 | All currently approved pressure-<br>demand supplied-air respirators<br>are equipped with full facepieces. |
| SurvivAir 9011-02.. | 19B-51          | 50-125                 |                                                                                                           |
| M-S-A 89104.....    | 19B-55          | 80-100                 |                                                                                                           |

## CONTINUOUS-FLOW, SUPPLIED-AIR RESPIRATORS

| Respirator                                               | Approval No. | Pressure range, psi | Half-mask | Full facepiece | Hood or helmet |
|----------------------------------------------------------|--------------|---------------------|-----------|----------------|----------------|
| Sly "Purair" helmet.....                                 | 19B-11       | 3-5                 | -         | -              | X              |
| Willson GA2, GA8, GAF, GAFW, and TAFW..                  | 19B-12       | 10-25               | X         | X              | -              |
| Willson GA2H, GAHW, and TAHW.....                        | 19B-30       | 40-100              | X         | X              | -              |
| Scott-Acme 4615-1, 4616-1, 4615-3, and 4616-3.....       | 19B-31       | 8-17/17-30          | X         | X              | -              |
| M-S-A 82554, 82254, 82597, and 82584...                  | 19B-32       | 12-16               | -         | -              | X              |
| M-S-A 84612 and 84535.....                               | 19B-33       | 40-100              | X         | X              | -              |
| M-S-A 84535, 84612, 87058, 87043, and 457161.....        | 19B-34A      | 40-100              | X         | X              | -              |
| M-S-A 457162, 93520, 93516, 93513, and 93524.....        | 19B-34B      | 10-15               | X         | X              | -              |
| Chicago Eye Shield Nos. 603 RH, RS, and RG.....          | 19B-35       | 15-35               | -         | -              | X              |
| M-S-A 87071.....                                         | 19B-37A      | 40-100              | X         | -              | -              |
| M-S-A 93521 and 93522.....                               | 19B-37B      | 10-15               | X         | -              | -              |
| M-S-A 93518, 93527, and 93530.....                       | 19B-38       | 10-15               | -         | X              | -              |
| M-S-A 87963, 87964, and 87965.....                       | 19B-38A      | 40-100              | -         | X              | -              |
| M-S-A 84304, 82289, 88377, and 88376...                  | 19B-41       | 10-15               | -         | X              | X              |
| M-S-A 84304, 82289, 88376, 88377, and 84536.....         | 19B-41A      | 40-100              | -         | X              | X              |
| Pulmosan AL-180 and HA-99.....                           | 19B-44       | 20-25               | -         | X              | X              |
| Rite Hardware 460-15.....                                | 19B-48       | 12-20               | -         | -              | X              |
| M-S-A 72662, 34727, 34728, 94494, and 450168.....        | 19B-52       | 16-22               | -         | X              | X              |
| M-S-A 94861, 94862, 94863, and 94864...                  | 19B-53       | 15-20               | -         | -              | X              |
| A. O. R6099.....                                         | 19B-54       | 8.5-25              | X         | -              | -              |
| Personal Environment Systems 810, 858, 870, and 856..... | 19B-56       | 25-35               | -         | -              | X              |
| Bullard 46-S, 46-D, 36-L, 36-LD, 77-S, and 77-D.....     | 19B-57       | 80-95               | -         | -              | X              |
| Personal Environment Systems 820, 880, 888, and 881..... | 19B-58       | 60-80               | -         | -              | X              |
| Personal Environment Systems 920, 980, 988, and 981..... | 19B-59       | 60-80               | -         | -              | X              |
| A. O. ASH series.....                                    | 19B-60       | 10-60               | -         | -              | X              |
| Safeline 7501-7511 series.....                           | 19B-61       | 10-60               | -         | -              | X              |
| Safeline 5775.....                                       | 19B-63       | 8.5-25              | X         | -              | -              |

## HOSE MASKS, SUPPLIED-AIR RESPIRATORS

| Respirator          | Approval No. | Hose length | Half-mask | Full facepiece | Hood or helmet |
|---------------------|--------------|-------------|-----------|----------------|----------------|
| M-S-A type B 457623 | 19B-62       | 75 ft       | -         | X              | -              |

## DUST, FUME, AND MIST RESPIRATORS

| Respirator                                                 | Approval No. | Protection afforded in addition to dusts |       |                |                 |
|------------------------------------------------------------|--------------|------------------------------------------|-------|----------------|-----------------|
|                                                            |              | Mists                                    | Fumes | Radio-nuclides | Radon daughters |
| Pulmosan L-800.....                                        | 21B-60       | -                                        | -     | -              | -               |
| A. O. R5056 and R6056.....                                 | 21B-63       | X                                        | X     | -              | -               |
| Safeline 5241.....                                         | 21B-63       | X                                        | X     | -              | -               |
| M-S-A 86431.....                                           | 21B-69       | X                                        | X     | -              | X               |
| Pulmosan C-251.....                                        | 21B-71       | X                                        | X     | -              | -               |
| A. O. R2090.....                                           | 21B-72       | X                                        | -     | -              | -               |
| Devilbiss MSD-505.....                                     | 21B-72       | X                                        | -     | -              | -               |
| Pulmosan C-264.....                                        | 21B-73       | X                                        | -     | -              | -               |
| A. O. R5030.....                                           | 21B-74       | X                                        | -     | -              | -               |
| Safeline 5265.....                                         | 21B-74       | X                                        | -     | -              | -               |
| Pulmosan L-801.....                                        | 21B-76       | X                                        | -     | -              | -               |
| Cesco 90F.....                                             | 21B-77       | X                                        | -     | -              | -               |
| A. O. R6030.....                                           | 21B-78       | X                                        | -     | -              | -               |
| Welsh 7506.....                                            | 21B-79       | X                                        | -     | -              | -               |
| Safeline 5441.....                                         | 21B-81       | X                                        | -     | -              | -               |
| Bausch & Lomb 5R20.....                                    | 21B-82       | X                                        | -     | -              | -               |
| Glendale Optical GR 2000 and 4000...                       | 21B-82       | X                                        | -     | -              | -               |
| Bausch & Lomb 5R10.....                                    | 21B-83       | -                                        | -     | -              | -               |
| Glendale Optical GR 1000 and 3000...                       | 21B-83       | -                                        | -     | -              | -               |
| A. O. R9166.....                                           | 21B-84       | X                                        | X     | -              | -               |
| Safeline 5701.....                                         | 21B-84       | X                                        | X     | -              | -               |
| A. O. R3030.....                                           | 21B-85       | X                                        | -     | -              | -               |
| A. O. R8156.....                                           | 21B-87       | X                                        | X     | -              | -               |
| A. O. R8100.....                                           | 21B-88       | X                                        | -     | -              | -               |
| Glendale GR 2026 <sup>1</sup> .....                        | 21B-89       | -                                        | X     | -              | -               |
| Bausch & Lomb 5R26 <sup>1</sup> .....                      | 21B-89       | -                                        | X     | -              | -               |
| M-S-A 86432.....                                           | 21B-90       | X                                        | X     | X              | -               |
| 3M 8700.....                                               | 21B-91       | X                                        | -     | -              | -               |
| Safeline 5550.....                                         | 21B-92       | X                                        | -     | -              | -               |
| Safeline 5556.....                                         | 21B-93       | X                                        | -     | -              | -               |
| Willson 1009.....                                          | 21B-94       | X                                        | X     | X              | -               |
| Willson RFMW-809 and TFMW-809.....                         | 21B-95       | X                                        | X     | X              | -               |
| M-S-A 96000.....                                           | 21B-97       | X                                        | -     | -              | -               |
| A. O. R6057 and R5057.....                                 | 21B-98       | X                                        | X     | X              | -               |
| Safeline 5245.....                                         | 21B-98       | X                                        | X     | X              | -               |
| Scott/Acme 659-1.....                                      | 21B-99       | X                                        | X     | X              | -               |
| Scott/Acme 8201-R.....                                     | 21B-100      | X                                        | X     | X              | -               |
| M-S-A 88479 and 457117.....                                | 21B-101      | X                                        | X     | X              | -               |
| M-S-A 84303 and 457116.....                                | 21B-102      | X                                        | X     | X              | -               |
| Protector 1054.....                                        | 21B-103      | X                                        | -     | -              | -               |
| Personal Environmental Systems 330, 350, 351, and 360..... | 21B-104      | X                                        | X     | -              | -               |
| Welsh 75BP-80, 7580, and 7580RD.....                       | 21B-105      | X                                        | X     | X              | X               |
| Welsh 7680.....                                            | 21B-106      | X                                        | X     | X              | -               |

<sup>1</sup>Not approved for dust.

## DUST, FUME, AND MIST RESPIRATORS--Continued

| Respirator                                                         | Approval<br>No. | Protection afforded in<br>addition to dusts |       |                    |                    |
|--------------------------------------------------------------------|-----------------|---------------------------------------------|-------|--------------------|--------------------|
|                                                                    |                 | Mists                                       | Fumes | Radio-<br>nuclides | Radon<br>daughters |
| A. O. 1040.....                                                    | 21B-107         | X                                           | -     | -                  | -                  |
| Safeline 5340.....                                                 | 21B-108         | X                                           | -     | -                  | -                  |
| North RP-161.....                                                  | 21B-109         | -                                           | -     | -                  | -                  |
| Willson 1210.....                                                  | 21B-110         | X                                           | -     | -                  | -                  |
| Willson 1211.....                                                  | 21B-111         | X                                           | X     | -                  | -                  |
| M-S-A 76869.....                                                   | 21B-113         | X                                           | -     | -                  | -                  |
| Welsh 7100.....                                                    | 21B-114         | X                                           | -     | -                  | -                  |
| Scott/Acme 8101-R.....                                             | 21B-115         | X                                           | X     | X                  | -                  |
| Scott/Acme 659-1, 662-1, 662-2,<br>and 652-1 with 502R filter..... | 21B-116         | X                                           | X     | X                  | -                  |
| Welsh 7406.....                                                    | 21B-117         | -                                           | -     | -                  | -                  |
| Welsh 7506.....                                                    | 21B-118         | X                                           | -     | -                  | -                  |
| M-S-A 86430 and 94688.....                                         | 21B-119         | X                                           | -     | -                  | -                  |
| M-S-A Peru.....                                                    | 21B-120         | X                                           | -     | -                  | -                  |
| Willson 560.....                                                   | 21B-121         | X                                           | -     | -                  | -                  |
| M-S-A 456608.....                                                  | 21B-122         | X                                           | -     | -                  | -                  |
| M-S-A 456607.....                                                  | 21B-123         | X                                           | -     | -                  | -                  |
| North RP-162.....                                                  | 21B-124         | X                                           | -     | -                  | -                  |
| A. O. 8190.....                                                    | 21B-125         | X                                           | X     | -                  | X                  |
| Safeline 5540.....                                                 | 21B-126         | X                                           | X     | -                  | X                  |
| A. O. 8157.....                                                    | 21B-127         | X                                           | X     | X                  | -                  |
| Safeline 5557.....                                                 | 21B-128         | X                                           | -     | -                  | -                  |
| Welsh 7165.....                                                    | 21B-129         | -                                           | -     | -                  | -                  |
| M-S-A 459059.....                                                  | 21B-130         | X                                           | X     | X                  | -                  |
| Pulmosan C-263 with 10924 face<br>cushion.....                     | 21B-131         | X                                           | X     | X                  | -                  |

## CHEMICAL CARTRIDGE RESPIRATORS

| Respirator                   | Approval No. | Approved for protection against inhalation of organic vapors and-- |             |                                 |             |             |                                        |
|------------------------------|--------------|--------------------------------------------------------------------|-------------|---------------------------------|-------------|-------------|----------------------------------------|
|                              |              | Pneumo-coniosis-producing dusts                                    | Toxic dusts | Pneumo-coniosis-producing mists | Toxic mists | Toxic fumes | Mists of paints, lacquers, and enamels |
| M-S-A 85556.....             | 23B-01       | X                                                                  | X           | X                               | X           | -           | -                                      |
| Binks.....                   | 23B-01       | X                                                                  | X           | X                               | X           | -           | -                                      |
| A. O. R5051 and R6051.....   | 23B-04       | -                                                                  | -           | -                               | -           | -           | -                                      |
| Devilbiss MSE-502...         | 23B-04       | -                                                                  | -           | -                               | -           | -           | -                                      |
| Safeline 5211.....           | 23B-04       | -                                                                  | -           | -                               | -           | -           | -                                      |
| A. O. 5055 and 6055.         | 23B-05       | X                                                                  | X           | X                               | X           | -           | -                                      |
| Safeline 5235.....           | 23B-05       | X                                                                  | X           | X                               | X           | -           | -                                      |
| M-S-A 48334.....             | 23B-06       | -                                                                  | -           | -                               | -           | X           | -                                      |
| Pulmosan C-256 and 259.....  | 23B-09       | X                                                                  | X           | -                               | -           | -           | -                                      |
| M-S-A 76853.....             | 23B-10       | -                                                                  | X           | -                               | -           | -           | -                                      |
| A. O. R5561 and R6561.....   | 23B-11       | X                                                                  | X           | X                               | X           | X           | -                                      |
| Safeline 5275.....           | 23B-11       | X                                                                  | X           | X                               | X           | X           | -                                      |
| M-S-A 84306.....             | 23B-12       | -                                                                  | -           | -                               | -           | -           | X                                      |
| Binks 40-80.....             | 23B-12       | -                                                                  | -           | -                               | -           | -           | X                                      |
| A. O. R5051P and R6051P..... | 23B-13       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Devilbiss MSP-505...         | 23B-13       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Safeline 5215.....           | 23B-13       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Willson 941-P.....           | 23B-14       | -                                                                  | -           | -                               | -           | -           | X                                      |
| A. O. R5091P and R6091P..... | 23B-15       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Devilbiss 43652-009.         | 23B-15       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Safeline 5271.....           | 23B-15       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Pulmosan C-251.....          | 23B-16       | -                                                                  | -           | -                               | -           | -           | X                                      |
| Welsh 7511.....              | 23B-17       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Welsh 7531.....              | 23B-18       | -                                                                  | -           | -                               | -           | -           | X                                      |
| A. O. R9051.....             | 23B-19       | -                                                                  | -           | -                               | -           | -           | -                                      |
| Safeline 5702.....           | 23B-19       | -                                                                  | -           | -                               | -           | -           | -                                      |
| A. O. R9051P.....            | 23B-20       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Safeline 5719.....           | 23B-20       | X                                                                  | X           | X                               | X           | -           | X                                      |
| A. O. R9055.....             | 23B-21       | X                                                                  | X           | X                               | X           | -           | -                                      |
| Safeline 5706.....           | 23B-21       | X                                                                  | X           | X                               | X           | -           | -                                      |
| A. O. R9091P.....            | 23B-22       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Safeline 5713.....           | 23B-22       | X                                                                  | X           | X                               | X           | -           | X                                      |
| A. O. R9561.....             | 23B-23       | X                                                                  | X           | X                               | X           | X           | -                                      |
| Safeline 5714.....           | 23B-23       | X                                                                  | X           | X                               | X           | X           | -                                      |
| A. O. R8151.....             | 23B-24       | -                                                                  | -           | -                               | -           | -           | -                                      |
| Glendale GR 2021-10.         | 23B-25       | X                                                                  | X           | X                               | X           | -           | -                                      |

## CHEMICAL CARTRIDGE RESPIRATORS--Continued

| Respirator           | Approval No. | Approved for protection against inhalation of organic vapors and-- |             |                                 |             |             |                                        |
|----------------------|--------------|--------------------------------------------------------------------|-------------|---------------------------------|-------------|-------------|----------------------------------------|
|                      |              | Pneumo-coniosis-producing dusts                                    | Toxic dusts | Pneumo-coniosis-producing mists | Toxic mists | Toxic fumes | Mists of paints, lacquers, and enamels |
| Bausch & Lomb 5R2110 | 23B-25       | X                                                                  | X           | X                               | X           | -           | -                                      |
| A. O. 8155.....      | 23B-26       | X                                                                  | X           | X                               | X           | -           | -                                      |
| Glendale GR 2021-20. | 23B-27       | -                                                                  | -           | -                               | -           | -           | X                                      |
| Bausch & Lomb 5R2120 | 23B-27       | -                                                                  | -           | -                               | -           | -           | X                                      |
| Scott/Acme 8201-OV.. | 23B-28       | -                                                                  | -           | -                               | -           | -           | -                                      |
| Scott/Acme 8101-OV.. | 23B-29       | -                                                                  | -           | -                               | -           | -           | -                                      |
| Safeline 5551.....   | 23B-30       | -                                                                  | -           | -                               | -           | -           | -                                      |
| Safeline 5555.....   | 23B-31       | X                                                                  | X           | X                               | X           | -           | -                                      |
| A. O. R8151P.....    | 23B-32       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Safeline 5560.....   | 23B-32       | X                                                                  | X           | X                               | X           | -           | X                                      |
| A. O. R8191P.....    | 23B-33       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Safeline 5521.....   | 23B-33       | X                                                                  | X           | X                               | X           | -           | X                                      |
| A. O. R8175P.....    | 23B-34       | X                                                                  | X           | X                               | X           | -           | X                                      |
| Willson 1221.....    | 23B-35       | -                                                                  | -           | -                               | -           | -           | -                                      |
| Willson 122110.....  | 23B-36       | X                                                                  | X           | X                               | X           | -           | -                                      |
| Willson R122113..... | 23B-37       | X                                                                  | X           | X                               | X           | X           | -                                      |
| Willson R122114..... | 23B-38       | -                                                                  | -           | -                               | -           | -           | X                                      |
| Scott/Acme 8176..... | 23B-39       | -                                                                  | -           | -                               | -           | -           | X                                      |

APPENDIX--NAMES AND ADDRESSES OF COMPANIES TO WHICH RESPIRATOR  
APPROVALS HAVE BEEN GRANTED

Acme Products Division, Scott Aviation, 1201 Kalamazoo St., South Haven,  
Mich. 49090

American Optical Corp., Southbridge, Mass. 01551

Aro Corp., One Aro Center, Bryan, Ohio 43506

Bausch & Lomb, Inc., P.O. Box 478, Rochester, N.Y. 14602

Binks Manufacturing Co., 3114-40 Carroll Ave., Chicago, Ill. 60612

E. D. Bullard Co., 2680 Bridgeway, Sausalito, Calif. 94965

The Devilbiss Co., Toledo, Ohio 43601

Glendale Optical (American Cyanamid) Co., Bound Brook, N.J. 08805

Globe Safety Products, Inc., 125 Sunrise Pl., Dayton, Ohio 45407

Mine Safety Appliances Co., 201 North Braddock Ave., Pittsburgh, Pa. 15208

Minnesota Mining & Manufacturing Co. (3M), 3M Center, St. Paul, Minn. 55101

National Mine Service Co., 3000 Koppers Bldg., Pittsburgh, Pa. 15219

North (James) Pty Ltd., P.O. Box 88, Annandale, Sydney, N.S.W. 2038, Australia

Parmalee Industries, Inc., 1535 Walnut St., Kansas City, Mo. 64108

Personal Environment Systems, P.O. Box 800, Glendale, Calif. 91204

Protector International Pty Ltd., Box M 76, Sydney Mail Exchange, N.S.W. 2012,  
Australia

Pulmosan Safety Equipment Corp., 30-48 Linden Pl., Flushing, N.Y. 11354

Scott Aviation, 225 Erie St., Lancaster, N.Y. 14086

U.S. Divers (SurvivAir), 3323 West Warner Ave., Santa Ana, Calif. 92702

Welsh Manufacturing Co., 9 Magnolia St., Providence, R.I. 02909

Willson Products Division, ESB, Inc., P.O. Box 622, Reading, Pa. 19603

W. W. Sly Manufacturing Co., 4735 Train Ave., Cleveland, Ohio 44102