

CUMULATIVE SUPPLEMENT TO
JULY 1974 EDITION OF
NIOSH CERTIFIED PERSONAL PROTECTIVE EQUIPMENT

JUNE 1975

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Center for Disease Control
National Institute for Occupational Safety and Health
Morgantown, West Virginia 26505

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CONTENTS¹

*PREFACE

I. COAL MINE DUST PERSONAL SAMPLER UNITS

*Approved Coal Mine Dust Personal Sampler Units
Names and Addresses of Manufacturers
Applicable Approval Regulations

II. GAS DETECTOR TUBE UNITS

*Certified Detector Tube Units
*Names and Addresses of Manufacturers and Distributors
Applicable Certification Regulations

III. RESPIRATORY PROTECTIVE DEVICES

Approved Respiratory Protective Devices

*Self-Contained Breathing Apparatus
*Gas Masks
*Supplied-Air Respirators
*Dust, Fume, and Mist Respirators
*Chemical-Cartridge Respirators

Tables for Identification of Approved Component Parts

*Table III-1. Self-Contained Breathing Apparatus
*Table III-2. Gas Masks
*Table III-3. Supplied-Air Respirators
*Table III-4. Dust, Fume, and Mist Respirators
*Table III-5. Chemical-Cartridge Respirators

*Pressure ranges and hose-length ranges for approved supplied-air respirators.

*Names and Addresses of Manufacturers and Distributors

*Applicable Approval Regulations

¹This table of contents lists all entries in the July 1974 edition and this supplement. Items marked with an asterisk appear in this supplement.

PREFACE

This cumulative supplement to the July 1974 publication, NIOSH CERTIFIED PERSONAL PROTECTIVE EQUIPMENT, lists approvals and certifications issued between July 18, 1974, and June 15, 1975.

A new table has been added, describing the pressure range and hose length range for each approved supplied-air respirator.

Reprints of amendments to respirator approval regulations appear at the end of this supplement. These amendments postponed the effective date for expiration of Bureau of Mines respirator approvals and provided for approval of vinyl chloride respirators.

Since NIOSH is not a major purchaser or user of Personal Protective Equipment, it welcomes information from the user concerning NIOSH certified or approved equipment. These comments and suggestions, comments on this publication and requests for additional information on certified equipment can be sent to the Director, Testing and Certification Laboratory, National Institute for Occupational Safety and Health, 944 Chestnut Ridge Road, Morgantown, West Virginia 26505.

I. COAL MINE DUST PERSONAL SAMPLER UNITS

The following coal mine dust personal sampler units have been approved by the U.S. Department of Health, Education, and Welfare, National Institute for Occupational Safety and Health, since July 18, 1974.

6. Bendix Model C-115. Approval TC-74-017, issued to Bendix Corp., September 17, 1974.
7. Bendix Micronair II. Approval TC-74-018, issued to Bendix Corp., April 16, 1975.
8. Bendix Model C-115. Approval TC-74-019, issued to Bendix Corp., April 16, 1975.
9. Bendix Micronair II with Koehler Connector. Approval TC-74-020, issued to Bendix Corp., April 16, 1975.

The following units have been decertified as of April 17, 1975, and are no longer approved equipment items.

1. Bendix Micronair II. Approval TC-74-012, issued to Bendix Corp., July 5, 1973.
5. Bendix Micronair II with Koehler Connector. Approval TC-74-016, issued to Bendix Corp., June 28, 1974.
6. Bendix Model C-115. Approval TC-74-017, issued to Bendix Corp., September 17, 1974.

II. GAS DETECTOR TUBE UNITS

The following gas detector tube units have been approved by the National Institute for Occupational Safety and Health since July 18, 1974:

- A. MSA^R Model 83499 Universal Sampling Pump has been certified for use with
 5. Nitrogen dioxide - Model 83099 gas detector tube, TC-84-040, October 29, 1974.
 6. Chlorine - Model 460225 gas detector tube, TC-84-042, November 12, 1974.
 7. Sulfur dioxide - Model 92623 gas detector tube, TC-84-046, January 15, 1975.

B. Gastec Model 400 Aspirating Pump (Bendix PN 2417535) has been certified for use with

8. Trichloroethylene - Model 132H gas detector tube, TC-84-038, August 9, 1974.
9. Chlorine - Model 8La gas detector tube, TC-84-041, November 12, 1974.
10. Benzene - Model 121 gas detector tube, TC-84-043, December 6, 1974.
11. Nitric oxide - Model 10 gas detector tube, TC-84-049, April 7, 1975.

C. Drager Bellows Pump Model 31 has been certified for use with

8. Trichloroethylene - Model CH 24401 (10/a) gas detector tube, TC-84-039, October 1, 1974.
9. Benzene- Model 67 26641 (5/b) gas detector tube, TC-84-044, December 6, 1974.
10. Nitric oxide - Model CH 31001 (2/a) gas detector tube, TC-84-048, April 4, 1975.
11. Nitrogen dioxide - Model CH 31001 (2/a) gas detector tube, TC-84-048, April 4, 1975.
12. Toluene - Model CH 23001, (5/a) gas detector tube, TC-84-050, April 21, 1975.
13. Hydrogen Cyanide - Model CH 25701 (2/a) gas detector tube, TC-84-051, April 21, 1975.

D. Kitagawa Model 400 Aspirating Pump (Matheson PN 8014-400) has been certified for use with

8. Hydrogen sulfide - Model 120b gas detector tube, TC-84-037, July 23, 1974.
9. Carbon monoxide - Model 100 gas detector tube, TC-84-045, January 15, 1975.
10. Hydrogen Cyanide - Model 112 Sb gas detector tube, TC-84-052, April 22, 1975.

E. Bacharach Model 19-7026 Universal Gas Sampler has been certified for use with

1. Carbon dioxide - Model 19-0359 gas detector tube, TC-84-047, April 4, 1975.

NAMES AND ADDRESSES OF MANUFACTURERS

Bacharach Instrument Co., 625 Alpha Drive, Pittsburgh, PA 15238.

III. RESPIRATORY PROTECTIVE DEVICES

The following respiratory protective devices have been approved by the U.S. Department of the Interior, Mining Enforcement and Safety Administration, and the U.S. Department of Health, Education, and Welfare, National Institute for Occupational Safety and Health, since July 19, 1974.

Self-Contained Breathing Apparatus

18. SurvivAir[®] part numbers 9038-00, 9038-02, 9838-00, and 9838-02 demand-type one half hour compressed-air self-contained breathing apparatus. Approval TC-13F-44, issued to SurvivAir Div., U.S. Divers Co., August 30, 1974.

19. SurvivAir[®] part numbers 9038-20, 9038-22, 9838-20, and 9838-22 pressure demand-type one-half hour compressed-air self-contained breathing apparatus. Approval TC-13F-45, issued to SurvivAir Div., U.S. Divers Co., August 30, 1974.

20. MSA[®] part numbers 457150, 95061, 457151, and 95068 demand-type 15 minute compressed-air self-contained breathing apparatus. Approval TC-13F-46, issued to Mine Safety Appliances Co., January 10, 1975.

21. MSA[®] part numbers 95063 and 460262 pressure-demand type 15 minute compressed-air self-contained breathing apparatus. Approval TC-13F-47, issued to Mine Safety Appliances Co., January 10, 1975.

22. Scott part number 900006 combination three-minute (22034-01 cylinder assembly) or five-minute (22034-02/03 cylinder assembly) self-contained breathing apparatus for escape and demand type C high-pressure supplied-air respirator. Approval TC-13F-48, issued to Scott Aviation, February 21, 1975, (Hose length range: 25-300 ft. Pressure range: 350-450 psi).

23. Scott part number 900007 combination three-minute (22034-01 cylinder assembly) or five-minute (22034-02/03 cylinder assembly) self-contained breathing apparatus for escape and pressure-demand type C high-pressure supplied-air respirator. Approval TC-13F-49, issued to Scott Aviation, February 21, 1975, (Hose length range: 25-300 ft. Pressure range: 350-450 psi).

24. NASA part number 27275-00 one-half hour self-contained demand-type compressed-air breathing apparatus for fire fighting. Approval TC-13F-50, issued to National Aeronautics and Space Administration, February 21, 1975.

25. NASA part number 27275-01 forty-five minute self-contained demand-type compressed-air breathing apparatus for fire fighting. Approval TC-13F-51, issued to National Aeronautics and Space Administration, February 21, 1975.

26. MSA[®] part number 457156 five-minute self-contained demand-type compressed-air breathing apparatus for escape only. Approval TC-13F-52, issued to Mine Safety Appliances Co., April 21, 1975.

27. SurvivAir[®] part numbers 9081-13 and 9881-13 combination five-minute self-contained breathing apparatus for escape and pressure-demand, type C supplied-air respirator. Approval TC-13F-53, issued to SurvivAir Div., U.S. Divers Co., May 19, 1975, (Hose length range: 4-250 ft. Pressure range: 50-125 psi).

28. SurvivAir[®] part numbers 9081-15 and 9881-15 combination five-minute self-contained breathing apparatus for escape and pressure-demand, type C supplied-air respirator. Approval TC-13F-54, issued to SurvivAir Div., U.S. Divers Co., May 19, 1975, (Hose length range: 4-250 ft. Pressure range: 50-125 psi).

29. MSA[®] part number 76753 five-minute self-contained demand type compressed-air breathing apparatus for escape only. Approval TC-13F-55, issued to Mine Safety Appliances Co., May 19, 1975.

30. MSA[®] part numbers 96395 and 455994 combination ten-minute self-contained breathing apparatus for escape and pressure demand, type C, supplied-air respirator. Approval TC-13F-56, issued to Mine Safety Appliances Co., June 2, 1975, (Hose length range: 25-300 ft. Pressure range: 75-90 psi).

Gas Masks

3. MSA[®] part numbers 461481, 461482, 461483, 461484, 461485, and 461486 gas masks (with part number 461480 canister) for respiratory protection against vinyl chloride. Approval TC-14G-84, issued to Mine Safety Appliances Co., December 30, 1974.

4. Scott part numbers 601211-17 and 601221-17 gas masks (with part number 084-VCL canister) for respiratory protection against vinyl chloride. Approval TC-14G-85, issued to Scott Aviation, December 30, 1974.

5. MSA[®] part numbers 448983, 448984, 448985, and 448986 gas masks (with part number 448972 canister) for respiratory protection against pesticides. Approval TC-14G-86, issued to Mine Safety Appliances Co., May 19, 1975.

6. MSA[®] part numbers 448975, 448976, 448977, and 448978 gas masks (with part number 448974 canister) for respiratory protection against organic vapors and dusts and mists. Approval TC-14G-87, issued to Mine Safety Appliances Co., February 21, 1975.

7. MSA[®] part numbers 448979, 448980, 448981, and 448982 gas masks (with 448973 canister) for respiratory protection against ammonia and dusts and mists. Approval TC-14G-88, issued to Mine Safety Appliances Co., February 21, 1975.

8. MSA[®] part numbers 460131, 460132, 460133, and 460134 gas masks (with part number 460113 canister) for respiratory protection against chlorine and dusts and mists. Approval TC-14G-89, issued to Mine Safety Appliances Co., February 21, 1975.

9. Welsh part numbers 7820, 7820S, 7829, and 7829S gas masks (with part number 7800-2VC (TC-14G-91) canister) for respiratory protection against vinyl chloride. Approval TC-14G-91, issued to Welsh, A Textron Co., January 17, 1975.

Supplied-Air Respirators

9. Scott catalog numbers 4616-11, -12, -15, -21, -22, and -25; and 4622-11, -12, -15, -21, -22, and -25 supplied-air respirators (Type C continuous-flow type) with 4266-15, 4265-25, and 4264-50 air supply hose. Approval TC-19C-71, issued to Scott Aviation, August 20, 1974.

10. Scott catalog numbers 4616-18, -19, -28, and -29; and 4622-18, -19, -28, and -29 supplied-air respirators (Type C continuous-flow type) with 4259-15, 4258-25, and 4257-50 air supply hose. Approval TC-19C-72, issued to Scott Aviation, August 20, 1974.

11. Scott part number 802230 supplied-air respirator (Type C demand and continuous flow type). Approval TC-19C-73, issued to Scott Aviation, November 26, 1974.

12. Scott part number 801548 supplied-air respirator (Type C pressure-demand type). Approval TC-19C-74, issued to Scott Aviation, November 26, 1974.

13. MSA ^R part numbers 457165, 84283, 46539, 457164, 93928, and 94988 supplied-air respirators (Type C demand class). Approval TC-19C-75, issued to Mine Safety Appliances Co., May 6, 1975.

14. MSA ^R part number 457623 supplied-air respirator (Type B). Approval TC-19C-77, issued to Mine Safety Appliances Co., March 7, 1975.

15. MSA ^R part numbers 460862, 460863, 460864, and 460865 supplied-air respirator (Type C continuous-flow class). Approval TC-19C-78, issued to Mine Safety Appliances Co., March 7, 1975.

16. Encon part number 6400 supplied-air respirator (Type C or CE continuous-flow class). Approval TC-19C-79, issued to Encon Manufacturing Co., April 9, 1975.

17. MSA ^R part numbers 460903, 460904, 460905, and 460906 supplied-air respirator (Type C continuous-flow class). Approval TC-19C-80, issued to Mine Safety Appliances Co., May 21, 1975.

18. MSA ^R part numbers 460907, 460908, 460909, and 460910 supplied-air respirator (Type CE continuous-flow class). Approval TC-19C-81, issued to Mine Safety Appliances Co., May 21, 1975.

19. Pulmosan part number AL180 #10168 supplied-air respirator (Type C continuous-flow class). Approval TC-19C-82, issued to Pulmosan Safety Equipment Corp., May 22, 1975.

20. Willson part numbers GA2 and GA8 supplied-air respirator (Type C continuous-flow class). Approval TC-19C-83, issued to Willson Products Div., ESB, Inc., May 29, 1975.

Dust, Fume, and Mist Respirators

16. A.O. R1050 single-use respirator for respiratory protection against pneumoconiosis and fibrosis-producing dusts. Approval TC-21C-147, issued to American Optical Corp., August 14, 1974.
17. Safeline 5350 single-use respirator for respiratory protection against pneumoconiosis and fibrosis-producing dusts. Approval TC-21C-148, issued to Safeline Products, August 14, 1974.
18. Scott part numbers 662-1 and 662-2 respirators (with 502-R filter) for respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 mg/M³, and radionuclides. Approval TC-21C-149, issued to Scott Aviation, August 20, 1974.
19. MSA ^R part numbers 88479 and 457117 respirators (with part number 88480 filter) for respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 mg/M³, and radionuclides. Approval TC-21C-150, issued to Mine Safety Appliances Co., September 9, 1974.
20. Welsh 7506 respirator (with 7500-6 filters) for respiratory protection against dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf and asbestos-containing dusts and mists. Approval TC-21C-151, issued to Welsh, A Textron Co., September 11, 1974.
21. Welsh 7580 respirator (with 7500-8 filters) for respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 mg/M³, and radionuclides. Approval TC-21C-152, issued to Welsh, A Textron Co., September 11, 1974.
22. Welsh 7406 L respirator (with 7400-6 filter) for respiratory protection against dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf and asbestos-containing dusts and mists. Approval TC-21C-153, issued to Welsh, A Textron Co., September 23, 1974.
23. Cover 1482-F100 respirator (with F100 filters) for respiratory protection against dusts having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf. Approval TC-21C-154, issued to H. S. Cover Co., November 26, 1974.
24. MSA ^R part number 460185 respirator (with part number 459322 filter) for respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 mg/M³, and radionuclides. Approval TC-21C-155, issued to Mine Safety Appliances Co., February 19, 1975.
25. MSA ^R part number 461683 respirator (with part number 457481 filter) for respiratory protection against dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf. Approval TC-21C-156, issued to Mine Safety Appliances Co., February 21, 1975.
26. Pulmosan C264 respirator (with part number C264-7 filter) for respiratory protection against dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf. Approval TC-21C-157, issued to Pulmosan Safety Equipment Corp., March 6, 1975.

27. Pulmosan C263 respirator (with part number C263-7 filter) for respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 mg/M^3 , and radionuclides. Approval TC-21C-158, issued to Pulmosan Safety Equipment Corp., March 6, 1975.
28. MSA^R part number 460357 respirator (with part number 457481 filter) for respiratory protection against dusts and mists having a time-weighted average not less than 0.04 mg/M^3 or 2 mppcf. Approval TC-21C-159, issued to Mine Safety Appliances Co., March 20, 1975.
29. A. O. R5057 and R6057 air-purifying respirator (with part number R57 filter) for respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 mg/M^3 , and radionuclides. Approval TC-21C-160, issued to American Optical Corp., March 21, 1975.
30. A.O. R5056 and R6056 air-purifying respirator (with part number R56 filter) for respiratory protection against dusts, fumes, and mists having a time-weighted average not less than 0.05 mg/M^3 , dusts and mists having a time-weighted average not less than 2 mppcf, and asbestos containing dusts and mists. Approval TC-21C-161, issued to American Optical Corp., March 21, 1975.
31. A. O. R8100 respirator (with part number R100 filter) for respiratory protection against dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf. Approval TC-21C-162, issued to American Optical Corp., April 22, 1975.
32. Cesco 94R20 respirator (with part number R20 filter) for respiratory protection against dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf, and asbestos containing dusts and mists. Approval TC-21C-163, issued to Cesco Safety Products, May 29, 1975.
33. Glendale GR2000 and GR4000 respirator (with part number F-10 filter) for respiratory protection against dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf, and asbestos containing dusts and mists. Approval TC-21C-164, issued to Glendale Optical Co., April 9, 1975.
34. Pulmosan L800 respirator (with part number C264-7 (TC-21C-157) filter) for respiratory protection against dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf. Approval TC-21C-165, issued to Pulmosan Safety Equipment Corp., April 30, 1975.
35. A. O. R2090N respirator (with part number R90N (TC-21C-166) filter) for respiratory protection against dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf. Approval TC-21C-166, issued to American Optical Corp., May 22, 1975.
36. DeVilbiss MSD-507 respirator (with part number MSD-508 (TC-21C-167) filter) for respiratory protection against dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf. Approval TC-21C-167, issued to DeVilbiss Co., May 22, 1975.

37. 3-M part numbers W250, W252, W253, and W254 respirator (with part number W2031 filter (TC-21C-136A) for respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 mg/M^3 , radionuclides, and radon daughters attached to the dusts, fumes, and mists. Approval TC-21C-136A, issued to 3M Co., March 14, 1975.

Chemical-Cartridge Respirators

21. A.O. R5052 respirator (with R52 cartridges) for respiratory protection against not more than 10 parts per million chlorine, 50 parts per million hydrogen chloride, and 50 parts per million sulfur dioxide. Approval TC-23C-60, issued to American Optical Corp., August 14, 1974.

22. A.O. R6052 respirator (with R52 cartridges) for respiratory protection against not more than 10 parts per million chlorine, 50 parts per million hydrogen chloride, and 50 parts per million sulfur dioxide. Approval TC-23C-61, issued to American Optical Corp., August 14, 1974.

23. Safeline 5221 respirator (with 5963 cartridges) for respiratory protection against not more than 10 parts per million chlorine, 50 parts per million hydrogen chloride, and 50 parts per million sulfur dioxide. Approval TC-23C-62, issued to Safeline Products, August 14, 1974.

24. Welsh 7504 respirator (with 7500-4 cartridges) for respiratory protection against not more than 300 parts per million of ammonia. Approval TC-23C-63, issued to Welsh, A Textron Co., September 11, 1974.

25. Welsh 7514 respirator (with 7500-4 cartridges and 7500-6 filters) for respiratory protection against not more than 300 parts per million of ammonia, dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-64, issued to Welsh, A Textron Co., September 11, 1974.

26. Welsh 7503 respirator (with 7500-3 cartridges) for respiratory protection against not more than 1,000 parts per million organic vapors, 10 parts per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide. Approval TC-23C-65, issued to Welsh, A Textron Co., September 11, 1974.

27. Welsh 7513 respirator (with 7500-3 cartridges and 7500-6 filters) for respiratory protection against not more than 1,000 parts per million organic vapors, 10 parts per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide, dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-66, issued to Welsh, A Textron Co., September 11, 1974.

28. Willson 1222 respirator (with R22 cartridges) for respiratory protection against not more than 10 parts per million chlorine. Approval TC-23C-67, issued to Willson Products Div., ESB Inc., September 11, 1974.

29. Willson 122210 respirator (with R22 cartridges and R10 filters) for respiratory protection against not more than 10 parts per million chlorine, dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-68, issued to Willson Products Div., ESB Inc., September 11, 1974.

30. Willson 1223 respirator (with R23 cartridges) for respiratory protection against not more than 50 parts per million sulfur dioxide. Approval TC-23C-69, issued to Willson Products Div., ESB Inc., September 11, 1974.

31. Willson 1224 respirator (with R24 cartridges) for respiratory protection against not more than 300 parts per million ammonia or 100 parts per million methyl amine. Approval TC-23C-70, issued to Willson Products Div., ESB Inc., September 11, 1974.

32. Willson 122410 respirator (with R24 cartridges and R10 filters) for respiratory protection against not more than 300 parts per million ammonia, 100 parts per million methyl amine, dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-71, issued to Willson Products Div., ESB Inc., September 11, 1974.

33. Willson 122310 respirator (with R23 cartridges and R10 filters) for respiratory protection against not more than 50 parts per million sulfur dioxide, dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf, and asbestos containing dusts and mists. Approval TC-23C-72, issued to Willson Products Div., ESB Inc., September 11, 1974.

34. Welsh 7511 respirator (with 7500-1 cartridges and 7500-6 filters) for respiratory protection against not more than 1,000 parts per million organic vapors, dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-73, issued to Welsh, A Textron Co., September 11, 1974.

35. Welsh 7549 respirator (with 7500-21 cartridges and 7500-23 filters) for respiratory protection against pesticides. Approval TC-23C-74, issued to Welsh, A Textron Co., September 23, 1974.

36. Welsh 7531 respirator (with 7500-1 cartridges and 7500-10 filters) for respiratory protection against organic vapors and paint, lacquer, and enamel mists. Approval TC-23C-75, issued to Welsh, A Textron Co., September 23, 1974.

37. Willson 1225 respirator (with R25 cartridges) for respiratory protection against not more than 1,000 parts per million organic vapors, 10 parts per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide. Approval TC-23C-76, issued to Willson Products Div., ESB Inc., September 30, 1974.

38. Willson 122510 respirator (with R25 cartridges and R10 filters) for respiratory protection against not more than 1,000 parts per million organic vapors, 10 parts per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide, dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-77, issued to Willson Products Div., ESB, Inc., September 30, 1974.

39. 3M W262 and W263 powered air purifying respirators (with W2031 filter and W2114 cartridge) for respiratory protection against pesticides. Approval TC-23C-78, issued to 3M Co., January 24, 1975.

40. MSA ^R part number 448848 respirator (with part number 448847 cartridges) for respiratory protection against pesticides. Approval TC-23C-79, issued to Mine Safety Appliances Co., January 24, 1975.

41. MSA ^R part number 448849 respirator (with part number 459315 cartridges and 448842 filters) for respiratory protection against organic vapors and paint, lacquer, and enamel mists. Approval TC-23C-80, issued to Mine Safety Appliances Co., January 24, 1975.

42. Pulmosan C256 respirator (with 17160 chemical cartridge) for respiratory protection against not more than one-tenth (0.1) percent organic vapors by volume. Approval TC-23C-81, issued to Pulmosan Safety Equipment Corp., March 6, 1975.

43. A.O. R5053 and R6053 air-purifying respirator (with R53 cartridge) for respiratory protection against not more than 1,000 parts per million organic vapors, 10 parts per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide. Approval TC-23C-82, issued to American Optical Corp., March 21, 1975.

44. A.O. R5055 and R6055 air-purifying respirator (with R55 cartridge) for respiratory protection against not more than 1,000 parts per million organic vapors by volume and dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf. Approval TC-23C-83, issued to American Optical Corp., March 21, 1975.

45. A.O. R8151 respirator (with R151 cartridge) for respiratory protection against not more than one-tenth (0.1) percent organic vapors by volume. Approval TC-23C-84, issued to American Optical Corp., April 22, 1975.

46. A.O. R8153 respirator (with R153 cartridge) for respiratory protection against not more than 1,000 parts per million organic vapors, 10 parts per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide. Approval TC-23C-85, issued to American Optical Corp., April 22, 1975.

47. Binks 40-129 respirator (with 40-130 (TC-23C-86) cartridge) for respiratory protection against not more than one-tenth (0.1) percent organic vapors by volume. Approval TC-23C-86, issued to Binks Manufacturing Co., April 21, 1975.

48. Binks 40-128 respirator (with 40-130 (TC-23C-86) cartridges and 40-131 (TC-23C-87) filters) for respiratory protection against (1) mists of paints, lacquers, and enamels; (2) not more than one-tenth (0.1) percent organic vapors; or (3) any combination thereof. Approval TC-23C-87, issued to Binks Manufacturing Co., April 21, 1975.

49. Glendale GR2021 respirator (with C21 cartridge) for respiratory protection against not more than 1,000 parts per million organic vapors by volume. Approval TC-23C-88, issued to Glendale Optical Co., May 1, 1975.

50. Glendale GR2021-10 respirator (with C21 cartridge and F-10 filter) for respiratory protection against not more than 1,000 parts per million organic vapors by volume and dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf. Approval TC-23C-89, issued to Glendale Optical Co., May 6, 1975.

51. Glendale GR2021-20 respirator (with C21 cartridge and F-20 filter) for respiratory protection against (1) mists of paints, lacquers, and enamels; (2) not more than one-tenth (0.1) percent organic vapors by volume; or (3) any combination thereof. Approval TC-23C-90, issued to Glendale Optical Co., May 6, 1975.

52. Pulmosan C259 respirator (with 17160 cartridge and C264-7 filter) for respiratory protection against not more than 1,000 parts per million organic vapors by volume and dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf. Approval TC-23C-91, issued to Pulmosan Safety Equipment Corp., May 21, 1975.

53. A.O. R8191P respirator (with R191 cartridge) for respiratory protection against (1) mists of paints, lacquers, and enamels; (2) not more than one-tenth (0.1) percent organic vapors by volume; (3) dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf; or (4) any combination thereof. Approval TC-23C-92, issued to American Optical Corp., May 22, 1975.

54. A.O. R8151P respirator (with R151 cartridge and R149 filter) for respiratory protection against (1) mists of paints, lacquers, and enamels; (2) not more than one-tenth (0.1) percent organic vapors by volume; (3) dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf; or (4) any combination thereof. Approval TC-23C-93, issued to American Optical Corp., May 22, 1975.

55. A.O. R5051P respirator (with R51 (TC-23C-56/57) cartridge and R49 (TC-23C-94/95) filter) for respiratory protection against (1) mists of paints, lacquers, and enamels; (2) not more than one-tenth (0.1) percent organic vapors by volume; (3) dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf; or (4) any combination thereof. Approval TC-23C-94, issued to American Optical Corp., May 27, 1975.

56. A.O. R6051P respirator (with R51 (TC-23C-56/57) cartridge and R49 (TC-23C-94/95) filter) for respiratory protection against (1) mists of paints, lacquers, and enamels; (2) not more than one-tenth (0.1) percent organic vapors by volume; (3) dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf; or (4) any combination thereof. Approval TC-23C-95, issued to American Optical Corp., May 27, 1975.

57. DeVilbiss MSP-505 respirator (with MSE-506 (TC-23C-59) cartridge and MSP-403 (TC-23C-96) filter) for respiratory protection against (1) mists of paints, lacquers, and enamels; (2) not more than one-tenth (0.1) percent organic vapors by volume; (3) dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf; or (4) any combination thereof. Approval TC-23C-96, issued to DeVilbiss Co., May 27, 1975.

58. A.O. R5091P respirator (with R91 (TC-23C-97/98) cartridge) for respiratory protection against (1) mists of paints, lacquers, and enamels; (2) not more than one-tenth (0.1) percent organic vapors by volume; (3) dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf; or (4) any combination thereof. Approval TC-23C-97, issued to American Optical Corp., May 27, 1975.

59. A.O. R6091P respirator (with R91 (TC-23C-97/98) cartridge) for respiratory protection against (1) mists of paints, lacquers, and enamels; (2) not more than one-tenth (0.1) percent organic vapors by volume; (3) dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf; or (4) any combination thereof. Approval TC-23C-98, issued to American Optical Corp., May 27, 1975.

60. CESCO 94R40 respirator (with R40 cartridge) for respiratory protection against not more than 1,000 parts per million organic vapors by volume. Approval TC-23C-99, issued to CESCO Safety Products, May 29, 1975.

TABLES FOR IDENTIFICATION
OF APPROVED COMPONENT PARTS

Table III-1. Self-contained breathing apparatus component parts, by approval number.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-13F-44	SurvivAir Div., U.S. Divers Co.	9038-00, 9038-02, 9838-00, 9838-02,	9411-12 or 9413-20, facepiece. 9118-00, regulator. 9602-47, low-pressure warning. 9151-45, cylinder and valve assembly. 9457-00, back-pack assembly.
TC-13F-45	SurvivAir Div., U.S. Divers Co.	9038-20, 9038-22, 9838-20, 9838-22	9411-60 or 9413-60, facepiece. 9118-01, regulator. 9602-47, low-pressure warning. 9151-45, cylinder and valve assembly. 9457-00, back-pack assembly.
TC-13F-46	Mine Safety Appliances Co.	457150, 95061, 457151, 95068	96680 or 95940, facepiece. 96065, breathing tube assembly. 456104, cylinder and valve assembly. 456066, support assembly. 460255, regulator assembly. 96671 or 89863, nosecup.
TC-13F-47	Mine Safety Appliances Co.	95063, 460262	96057, facepiece. 96065, breathing tube assembly. 456104, cylinder and valve assembly. 456066, support assembly. 460256, regulator assembly. 455668, nosecup.
TC-13F-48	Scott Aviation	900006	801450-13, facepiece assembly and breathing tube assembly. 802157-00, hose and coupling assembly. 800013-01, regulator assembly. 22034-01 or 22034-02/03, harness and cylinder assembly. 22025-01, coupling hose assembly. 15319/6141, air-supply hose. (Below 32°F., add 801432-00, nosecup assembly to the above)

Table III-1. Self-contained breathing apparatus component parts, by approval number--Continued.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-13F-49	Scott Aviation	900007	801500-15, facepiece assembly. 802157-00, breathing tube assembly. 800212-01, regulator assembly. 22034-01 or 22034-02/03, harness and cylinder assembly. 22025-01, coupling hose assembly. 15319/6141, air-supply hose. (Below 32°F., add 801432-00, nosecup assembly to the above)
TC-13F-50	NASA	27275-00	27234-00, facepiece assembly. 27240-00, frame and harness assembly. 27235-00, regulator assembly. 27237-00, pressure reducer assembly. 1630-72-14, cylinder assembly.
TC-13F-51	NASA	27275-01	27234-00, facepiece assembly. 27240-00, frame and harness assembly. 27235-00, regulator assembly. 27237-00, pressure reducer assembly. 1269367-1, cylinder assembly.
TC-13F-52	Mine Safety Appliances Co.	457156	96680, facepiece. 96065, breathing tube assembly. 455943, cylinder and valve assembly. 456041, regulator. 460744, carrier assembly. 96671, nosecup.
TC-13F-53	Survivair Div., U.S. Divers Co.	9081-13 9881-13 (Foster Couplings)	9425-23 or 9405-23, facepiece and regulator assembly. 9155-36, cylinder assembly. 9304-11, 9304-12, 9304-13, 9304-14, 9304-15, 9304-16, 9304-17, 9304-18, 9304-19, 9304-20, 9304-68, 9304-80, 9304-81, 9304-82, or 9304-83, air-line hose.

Table III-1. Self-contained breathing apparatus component parts, by approval number--Continued.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-13F-54	Survivair Div., U.S. Divers Co.	9081-15 9881-15 (Schrader Coupling)	9425-24 or 9405-24, facepiece and regulator assembly. 9155-35, cylinder assembly. 9304-41, 9304-42, 9304-43, 9304-44, 9304-45, 9304-46, 9304-47, 9304-48, 9304-49, 9304-50, 9304-70, 9304-71, 9304-72, 9304-73, or 9304-85, air-line hose.
TC-13F-55	Mine Safety Appliances Co.	76753	76760, breathing tube and mouthpiece assembly. 77140, cylinder and regulator assembly. 460743, carrier assembly.
TC-13F-56	Mine Safety Appliances Co.	96395 455994	455862 or 455995, facepiece. 460623, breathing tube assembly. 454081, cylinder and valve assembly. 460673, regulator-connector and pressure switch assembly. 455847, harness. 455021 and/or 455022, air-supply hose.

Table III-2. Gas masks component parts, by approval number.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-14G-84	Mine Safety Appliances Co.	461481, 461482, 461483, 461484, 461485, 461486.	95940 or 96680, facepiece. 88306, 457168, or 457175, breathing tube assembly. 84937 or 84938, harness. 461480 canister.
TC-14G-85	Scott Aviation	601211-17, 601221-17	742 or 600121, facepiece. 6108-10 or 6110-27, breathing tube assembly. 565 or 600309-00, harness. 084-VCL canister.
TC-14G-86	Mine Safety Appliances Co.	448983, 448984, 448985, 448986.	95940 or 96680, facepiece. 448972, canister.
TC-14G-87	Mine Safety Appliances Co.	448975, 448976, 448977, 448978.	95940 or 96680, facepiece. 448974, canister.
TC-14G-88	Mine Safety Appliances Co.	448979, 448980, 448981, 448982.	95940 or 96680, facepiece. 448973, canister.
TC-14G-89	Mine Safety Appliances Co.	460131, 460132, 460133, 460134.	95940 or 96680, facepiece. 460113, canister.
TC-14G-91	Welsh	7820, 7820S, 7829, and 7829S.	780011 or 780011S, facepiece. 780060 or 780061, hose assembly. 780039 or 780041, harness assembly. 780062, connector. 7800-2VC, canister.

Table III-3. Supplied-air respirators component parts, by approval number.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-19C-71	Scott Aviation	4616-11, -12, -15, -21, -22, and -25 4622-11, -12, -15, -21, -22, and -25	742 or 4704, facepiece. 6119, breathing tube. 4196 or 4196-1, flow control valve and cartridge assembly. 4286, air-supply hose.
TC-19C-72	Scott Aviation	4616-18, -19, -28, and -29 4622-18, -19, -28, and -29	742 or 4704, facepiece. 6119, breathing tube. 4199 or 4199-1, flow control valve and cartridge assembly. 4225, air-supply hose.
TC-19C-73	Scott Aviation	802230	801450-40/41, facepiece assembly. 800227-00, regulator assembly. 26022-01/03, supply hose or 26022-01/03, supply hose with 26025-01, strap and belt assembly and 30010/30020 series extension hose.
TC-19C-74	Scott Aviation	801548	801450-04, facepiece assembly. 801549-00, regulator assembly. 26022-01/03, supply hose or 26022-01/03, supply hose with 26025-01, strap and belt assembly and 30010/30020 series extension hose
TC-19C-75	Mine Safety Appliances Co.	457165, 84283, 457164, 93928, 46539, 94988	96680, 95940, or 94331, facepiece. 457158, breathing tube assembly. 81070 or 92656, regulator- connector. 9961, web belt. 455021 or 455022, hose.

Table III-3. Supplied-air respirators component parts, by approval number--
Continued.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-19C-77	Mine Safety Appliances Co.	457623	96680, facepiece. 88306, breathing tube assembly. 460626, harness assembly. 460625, stake and funnel assembly. 17273, air-supply hose.
TC-19C-78	Mine Safety Appliances Co.	460862, 460863, 460864, 460865.	94331, 95940, or 96680, facepiece with 9661, web belt or 460861 facepiece with 78362 harness. 457158, breathing tube assembly. 460814, control valve. 455021 and/or 455022, air-supply hose.
TC-19C-79	Encon Mfg. Co.	6400	6400-1, helmet and shroud assembly. 6400-75, air duct. 6315-50, air regulating valve. 6400-10, belt. 6400-25 or 6400-50, air-supply hose assembly.
TC-19C-80	Mine Safety Appliances Co.	460903,	460886, hood. 94379, cape. 95302, filter. 460893, filter holder. 9961, web belt. 460814, valve. 455021 or 455022, air-supply hose.
		460904	460886, hood. 94029, collar. 95302, filter. 460893, filter holder. 9961, web belt. 460814, valve. 455021 or 455022, air-supply hose.
		460905	460886, hood. 94379, cape. 95302, filter. 460893, filter holder. 9961, web belt. 460829, connector. 455021 or 455022, air-supply hose.

Table III-3. Supplied-air respirators component parts, by approval number--
Continued.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-19C-80--Continued		460906	460886, hood. 94029, collar. 95302, filter. 460893, filter holder. 9961, web belt. 460829, connector. 455021 or 455022, air supply hose.
TC-19C-81	Mine Safety Appliances Co.	460907	72800 or 460885, hood. 94029, collar. 460814, valve. 9961, web belt. 455021 or 455022, air-supply hose.
		460908	460885, hood, 94417, cape. 460814, valve. 9961, web belt. 455021 or 455022, air-supply hose.
		460909	460885, hood. 450924, cape. 460814, valve. 9961, web belt. 455021 or 455022, air-supply hose.
		460910	460885, hood. 94488, collar. 460814, valve. 9961, web belt. 455021 or 455022, air-supply hose.
TC-19C-82	Pulmosan	AL180 #10168	10939, facepiece and breathing tube assembly. 10942, belt with orifice coupler assembly. 20138, 20141, or 20144, air-supply hose.
TC-19C-83	Willson	GA2 GA8	R726 or R727, facepiece. R728, breathing tube subassembly. R729, airline belt subassembly. R714, air-supply hose.

Table III-4. Dust, fume, and mist respirators component parts, by approval number.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-21C-147	American Optical Corp.	R1050	R1050, respirator assembly.
TC-21C-148	Safeline Products	5350	5350, respirator assembly.
TC-21C-149	Scott Aviation	662-1 and 662-2	805 or 742, facepiece. 502-R, filter.
TC-21C-150	Mine Safety Appliances Co.	88479 and 457117	96680 or 95940, facepiece. 88480, filter.
TC-21C-151	Welsh	7506	7500-30, facepiece assembly. 7500-6, filters. 7500-14, filter covers.
TC-21C-152	Welsh	7580	7500-30, facepiece assembly. 7500-8, filters.
TC-21C-153	Welsh	7406L	7400-30, facepiece assembly. 7400-6, filter. 7400-14, filter cover.
TC-21C-154	Cover	1482-F100	B222, respirator assembly. F100, filters.
TC-21C-155	Mine Safety Appliances Co.	460185	460560, facepiece. 459322, filter.
TC-21C-156	Mine Safety Appliances Co.	461683	461683, facepiece. 457481, filter.
TC-21C-157	Pulmosan	C-264	10768, body assembly with either 10924 or 10792 face cushion. C-264-8, adapter and filter cap. C-264-7, filter.
TC-21C-158	Pulmosan	C-263	10768, body assembly. 10924, face cushion. C-263-7, filter.
TC-21C-159	Mine Safety Appliances Co.	460357	460357, facepiece. 457481, filter.
TC-21C-160	American Optical Corp.	R5057 R6057	50206 or 50171, basic respirator subassembly. R57, filter.

Table III-4. Dust, fume, and mist respirators component parts, by approval number--Continued.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-21C-161	American Optical Corp.	R5063 R6063	50206 or 50171, basic respirator subassembly. R56, filter.
TC-21C-162	American Optical Corp.	R8100	51294, basic respirator subassembly. R100, filters. 51347, filter cover.
TC-21C-163	Cesco Safety Products (Parmalee)	94R20	94, facepiece assembly. R20, filter. 94R9, filter screen.
TC-21C-164	Glendale Optical	GR2000 GR4000	F-200 or F-400, facepiece. F-10, filter. F-14, filter cover.
TC-21C-165	Pulmosan	L800	10771, body assembly. 10924 or 10795, face cushion. C-264-7, filter. L-800-8, filter cap.
TC-21C-166	American Optical Corp.	R2090N	51460, basic respirator subassembly. R90N, filter. 51062, filter cover.
TC-21C-167	DeVilbiss	MSD-507	51461, basic respirator subassembly. MSD-508, filter. 51062, filter cover.
TC-21C-136A	3M	W250, W252, W253, W254.	W2031, filter. W2090, breathing tube. Either W2009AA, W2009AD back-pack harness, or W2008, W2008BA, machine mounting. W5005, W5003, W5002, or W5201, helmet.

Table III-5. Chemical-cartridge respirators component parts, by approval number.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-23C-60	American Optical Corp.	R5052	50206, basic respirator subassembly. R52, cartridges.
TC-23C-61	American Optical Corp.	R6052	51071, basic respirator subassembly. R52, cartridges.
TC-23C-62	Safeline Products	5221	05862, basic respirator subassembly. 5963, cartridges.
TC-23C-63	Welsh	7504	7500-30, facepiece assembly. 7500-4, cartridges.
TC-23C-64	Welsh	7514	7500-30, facepiece assembly. 7500-4, cartridges. 7500-6, filters. 7500-14, filter covers.
TC-23C-65	Welsh	7503	7500-30, facepiece assembly. 7500-3, cartridges.
TC-23C-66	Welsh	7513	7500-30, facepiece assembly. 7500-3, cartridges. 7500-6, filters. 7500-14, filter covers.
TC-23C-67	Willson	1222	AR700, basic respirator assembly. R22, cartridges.
TC-23C-68	Willson	122210	AR700, basic respirator assembly. R22, cartridges. R10, filters. R682, filter retainers.
TC-23C-69	Willson	1223	AR700, basic respirator assembly. R23, cartridges.

Table III-5. Chemical-cartridge respirators component parts, by approval number--Continued.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-23C-70	Willson	1224	AR700, basic respirator assembly. R24, cartridges.
TC-23C-71	Willson	122410	AR700, basic respirator assembly. R24, cartridges. R10, filters. R682, filter retainers.
TC-23C-72	Willson	122310	AR700, basic respirator assembly. R23, cartridges. R10, filters. R682, filter retainers.
TC-23C-73	Welsh	7511	7500-30, facepiece assembly. 7500-1, cartridges. 7500-6, filters. 7500-14, filter covers.
TC-23C-74	Welsh	7549	7500-30, facepiece assembly. 7500-21, cartridges. 7500-23, filters. 7500-14, filter covers.
TC-23C-75	Welsh	7531	7500-30, facepiece assembly. 7500-1, cartridges. 7500-10, filters. 7500-14, filter covers.
TC-23C-76	Willson	1225	AR700, basic respirator assembly. R25, cartridges.
TC-23C-77	Willson	122510	AR700, basic respirator assembly. R25, cartridges. R10, filters. R682 filter retainers.
TC-23C-78	3M	W262, W263	W2801, powered air purifier. W2031, filter. W2114, cartridge. W2090, breathing tube. W5005, helmet, or W5201 hood.

Table III-5. Chemical-cartridge respirators component parts, by approval number--Continued.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-23C-79	Mine Safety Appliances Co.	448848	449703, facepiece assembly. 448847, cartridges.
TC-23C-80	Mine Safety Appliances Co.	448849	449703, facepiece assembly. 459315, cartridges. 448842, filters. 448844, filter covers.
TC-23C-81	Pulmosan	C-256	10768, body assembly with either 10924 or 10792 face cushion. 17160, chemical cartridge.
TC-23C-82	American Optical Corp.	R5053 R6053	50206 or 51071, basic respirator subassembly. R53, cartridge.
TC-23C-83	American Optical Corp.	R5055 R6055	50206 or 51071, basic respirator subassembly. R55, cartridge.
TC-23C-84	American Optical Corp.	R8151	51294, basic respirator subassembly. R151, cartridge.
TC-23C-85	American Optical Corp.	R8153	51294, basic respirator subassembly. R153, cartridge.
TC-23C-86	Binks Mfg. Co.	40-129	460854, facepiece assembly. 40-130, cartridge.
TC-23C-87	Binks Mfg. Co.	40-128	460854, facepiece assembly. 40-130 (TC-23C-86), cartridge. 40-131, filter. 40-132, filter cover.
TC-23C-88	Glendale Optical	GR2021	F-200, facepiece. C-21 (TC-23C-88), cartridge.
TC-23C-89	Glendale Optical	GR2021-10	F-200, facepiece. C-21 (TC-23C-88), cartridge. F-10 (TC-21C-164), filter. F-21, filter cover.
TC-23C-90	Glendale Optical	GR2021-20	F-200, facepiece. C-21 (TC-23C-88), cartridge. F-20 (TC-23C-90), filter. F-21, filter cover.

Table III-5. Chemical-cartridge respirators component parts, by approval number--Continued.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-23C-91	Pulmosan	C-259	10768, body assembly. 10792 or 10924, face cushion. 17160 (TC-23C-81), cartridge. C-264-7 (TC-21C-157), filter. C-200-8, filter cap.
TC-23C-92	American Optical Corp.	R8191P	51294, basic respirator subassembly. R191, cartridge.
TC-23C-93	American Optical Corp.	R8151P	51294, basic respirator subassembly. R151 (TC-23C-84), cartridge. R149, filter. R150, filter clip.
TC-23C-94	American Optical Corp.	R5051P	50206, basic respirator subassembly. R51 (TC-23C-56/57), cartridge. R49 (TC-23C-94/95), filter. R185, filter clip.
TC-23C-95	American Optical Corp.	R6051P	51071, basic respirator subassembly. R51 (TC-23C-56/57), cartridge. R49 (TC-23C-94/95), filter. R185, filter clip.
TC-23C-96	DeVilbiss Company	MSP-505	50728, basic respirator assembly. MSE-506 (TC-23C-59), cartridge. MSP-403 (TC-23C-96), filter. MSP-405, filter clip.
TC-23C-97	American Optical Corp.	R5091P	50206, basic respirator subassembly. R91 (TC-23C-97/98), cartridge.
TC-23C-98	American Optical Corp.	R6091P	51071, basic respirator subassembly. R91 (TC-23C-97/98), cartridge.
TC-23C-99	Cesco Safety Products	94R40	94, facepiece assembly. R40, cartridge.

PRESSURE RANGES AND HOSE-LENGTH RANGES FOR APPROVED
SUPPLIED-AIR RESPIRATORS

Approval number	Respirator(s)	Hose-length range, feet	Pressure range, psi
TC-19C-64	Cesco PI-800	15	5 - 17
TC-19C-64	U.S. Safety Services PI-80	15	5 - 17
TC-19C-65	SurvivAir [®] 9011-12, 9811-12	4 - 250	50 - 125
TC-19C-66	SurvivAir [®] 9011-14, 9811-14	4 - 250	50 - 125
TC-19C-67	SurvivAir [®] 9011-13, 9811-13	4 - 250	50 - 125
TC-19C-68	SurvivAir [®] 9011-15, 9811-15	4 - 250	50 - 125
TC-19C-69	3M W-810, W-840, W-856, W-858, W-870	25 - 300	50 - 90
TC-19C-70	3M W-820, W-880, W-881, W-888, W-890	25 - 100	65 - 90
TC-19C-71	Scott 4616-11, -12, -15, -21 -22, -25; and	15 - 50	12 - 25
	4622-11, -12, -15, -21, -22, -25	50 - 250	25 - 40
TC-19C-72	Scott 4616-18, -19, -28, -29; and	15 - 50	6 - 16
	4622-18, -19, -28, -29	50 - 250	16 - 22
TC-19C-73	Scott 802230	25 - 250	60 - 125
TC-19C-74	Scott 801548	25 - 250	60 - 125
TC-19C-75	MSA [®] 457165, 84283, 457164, 93928, 46539, 94988	25 - 300	50 - 125
TC-19C-77	MSA [®] 457623	up to 75	
TC-19C-78	MSA [®] 460862, 460863, 460864, and 460865	25 - 300	35 - 40
TC-19C-79	Encon Mfg. 6400	25 - 50	70 - 90
TC-19C-80	MSA [®] 460903, 460904, 460905, and 460906	25 - 300	55 - 60

PRESSURE RANGES AND HOSE-LENGTH RANGES FOR APPROVED

SUPPLIED-AIR RESPIRATORS--Continued

Approval number	Respirator(s)	Hose-length range, feet	Pressure range, psi
TC-19C-81	MSA [®] 460907, 460908, 460909, and 460910	25 - 300	55 - 60
TC-19C-82	Pulmosan AL180 #10168	15 - 50	10 - 20
TC-19C-83	Willson GA2, GA8	15 - 100 100 - 300	10 - 32 21 - 50

NAMES AND ADDRESS OF MANUFACTURERS AND DISTRIBUTORS

Binks Manufacturing Co., 9201 W. Belmont Avenue, Franklin Park, Illinois 60131.

Encon Manufacturing Co., 4914 Dickson Street, Houston, Texas 77007.

Glendale Optical Company, 130 Crossways Park Drive, Woodbury, New York 11797.

National Aeronautics and Space Administration, Lyndon B. Johnson Space Center,
Houston, Texas 77058.

Pulmosan Safety Equipment Corp., 30-48 Linden Place, Flushing, New York 11354.

Applicable Approval Regulations

FEDERAL REGISTER, VOL. 39, NO. 227—FRIDAY, NOVEMBER 22, 1974

Title 30—Mineral Resources

CHAPTER I—MINING ENFORCEMENT AND SAFETY ADMINISTRATION, DE- PARTMENT OF THE INTERIOR

SUBCHAPTER B—RESPIRATORY PROTECTIVE APPARATUS; TESTS FOR PERMISSIBILITY; FEES

PART 11—RESPIRATORY PROTECTIVE DEVICES; TESTS FOR PERMISSIBILITY; FEES

Deadline Extension

The Secretary of the Interior, through the Mining Enforcement and Safety Administration (MESA) and the Secretary of Health, Education, and Welfare, through the National Institute for Occupational Safety and Health (NIOSH), conduct a testing and approval program for respirators used in hazardous atmospheres pursuant to the regulations contained in 30 CFR Part 11 issued jointly by the Secretaries (37 FR 6244).

On April 9, 1974, following a public hearing on the issue, Part 11 was amended (39 FR 12864) to provide that until September 30, 1974 respirators approved under Part 11 or a Bureau of Mines respirator schedule would be approved for use in hazardous atmospheres.

The amendments provided that after September 30, 1974, only respirators approved under Part 11 or manufactured pursuant to a quality control plan approved under Part 11 would be approved for such use except that if a respirator was purchased before September 30, 1974 and at the time of purchase was approved for use under a Bureau of Mines respirator schedule, it would be approved for use until the dates specified in the regulation. The amendment further provided that after March 31, 1975 only respirators approved under Part 11 would be approved for use except that if a respirator was purchased before March 31 and at that time was approved under a Bureau of Mines respirator schedule and manufactured pursuant to an approved quality control plan, it would be approved for use until the dates specified in the regulation.

Following adoption of the April 9 amendments, respirator manufacturers submitted quality control plans for NIOSH review and approval. While some plans were submitted in a timely manner, a number was not received until after July 1974, and a substantial number has not yet been received. Due to the complexity of the plans and the shortage of qualified manpower to review these detailed plans, there are devices for which a quality control plan has been submitted but not reviewed and approved. The result is that, unless

the regulations are amended, after September 30 these devices will no longer be permitted to be sold as approved equipment. Moreover, it is anticipated that a similar situation will develop with respect to the March 31, 1975 deadline.

The purpose of these amendments is to eliminate September 30, 1974 as a deadline date and to extend the March 31, 1975 date described above to June 30, 1975. By that time NIOSH will have had an opportunity to review all of the quality control plans previously submitted as well as those anticipated to be received.

Respiratory equipment already in the possession of industrial users or acquired on or before June 30, 1975 and previously approved under Bureau of Mines respirator approval schedules will continue to be approved for use in accordance with the dates adopted in the April 9, 1974 amendments (39 FR 12864).

Finally, since the requirements for the approval and certification of gas masks are under revision, the deadline date for the approval of those devices has not been established and those devices have been excepted from the June 30, 1975 deadline date. A deadline date for approval and certification of gas masks under Part 11 will be adopted in the future.

Since it is essential that approved respiratory protective devices remain available to industrial users, the Departments find that good cause exists for omitting notice of proposed rulemaking and postponement of the effective date in the issuance of the amendments to Part 11. Accordingly, these amendments, as set forth below, will be effective on September 30, 1974.

Part 11 of Title 30, Code of Federal Regulations is amended and revised as set forth below.

Dated: November 12, 1974.

JACK W. CARLSON,
Assistant Secretary of the Interior

Dated: November 13, 1974.

CASPAR W. WEINBERGER,
Secretary of Health, Education,
and Welfare.

In Part 11, a new § 11.2-1 is added and § 11.2 is revised to read as follows:

§ 11.2 Approved respirators other than gas masks.

(a) Until June 30, 1975, respirators or combinations of respirators other than gas masks shall be approved for use in hazardous atmospheres where such respirators or combinations of respirators are maintained in an approved condition and are the same in all respects as those respirators:

(1) For which a certificate of approval has been issued under this part; or

(2) Fabricated, assembled or built under any approval or any modification thereof issued by the U.S. Bureau of Mines, Department of the Interior, in accordance with the schedules set forth in this paragraph:

(i) Self-contained Breathing Apparatus, Bureau of Mines Schedules 13, March 5, 1919; 13A, January 21, 1930; 13B, August 12, 1935; 13c, July 9, 1946; 13D, September 22, 1956, and 13E, July 19, 1968.

(ii) Supplied-air Respirators, Bureau of Mines Schedule 19B, April 19, 1955.

(iii) Filter-type Dust, Fume, and Mist Respirators, Bureau of Mines Schedule 21B, January 19, 1965.

(iv) Nonemergency Gas Respirators, Bureau of Mines Schedule 23B, August 4, 1959.

(b) After June 30, 1975, respirators or combinations of respirators other than gas masks shall be approved for use in hazardous atmospheres where such respirators or combinations of respirators are maintained in an approved condition and are the same in all respects as those respirators for which a certificate has been issued under this part: *Provided*, That if a respirator is purchased on or before June 30, 1975 and at the time of purchase was the same in all respects as a respirator approved under a Bureau of Mines Schedule, it shall be approved for use until the following dates:

Until March 31, 1979, for self-contained breathing apparatus approved under Bureau of Mines Schedules 13-13E.

Until March 31, 1980, for supplied-air respirators approved under Bureau of Mines Schedule 19B.

Until March 31, 1976, for filter-type dust, fume, and mist respirators approved under Bureau of Mines Schedule 21B and for non-emergency gas respirators approved under Bureau of Mines Schedule 23B.

§ 11.2-1 Approved gas masks.

Gas masks shall be approved for use in hazardous atmospheres where such

gas masks are maintained in an approved condition and are the same in all respects as those gas masks:

(a) For which a certificate of approval has been issued under this part; or

(b) Fabricated, assembled or built under any approval or any modification thereof issued by the U.S. Bureau of Mines, Department of the Interior in accordance with Bureau of Mines Schedule 14F, April 23, 1955.

(Secs. 202(h), 204, 308, 83 Stat. 768, 764, 803 (30 U.S.C. 842(h), 844, 857); secs. 2, 3, 5, 23 Stat. 370, as amended 27 Stat. 851 (30 U.S.C. 2, 5, 7); sec. 8(g), 34 Stat. 1600 (29 U.S.C. 857(g)))

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28

Title 30—Mineral Resources

CHAPTER I—MINING ENFORCEMENT
AND SAFETY ADMINISTRATION, DE-
PARTMENT OF THE INTERIORPART 11—RESPIRATORY PROTECTIVE
DEVICES; TESTS FOR PERMISSIBILITY;
FEESRespiratory Protection Against Exposure to
Vinyl Chloride

The Secretary of the Interior, through the Mining Enforcement and Safety Administration, and the Secretary of Health, Education, and Welfare, through the National Institute for Occupational Safety and Health, conduct a testing and approval program for respirators used in occupationally hazardous atmospheres pursuant to regulation contained in this part.

On October 4, 1974, the Occupational Safety and Health Administration, following a public hearing on the matter, promulgated a standard for the control of employee exposure to vinyl chloride. The standard provides that respiratory protection shall be provided at the request of employees exposed to 25 ppm or less vinyl chloride and requires that respirators shall be selected from those approved under Part 11. Specifically, the standard requires, among other things, that where the atmospheric concentration of vinyl chloride is not over 25 ppm, any gas mask with front- or back-mounted canister or powered air-purifying respirator with canister which provides a service life of at least four hours may be used, and where the concentration is not over 10 ppm, any chemical cartridge respirator with an organic vapor cartridge which provides a service life of at least one hour may be used. The standard further requires a program to assure timely replacement of canisters or cartridges.

The purpose of the amendments set forth below is to establish special procedures for testing vinyl chloride respirators and to adopt a requirement that any canister or cartridge used to protect employees against exposure to vinyl chloride, have an end-of-service-life indicator. Unlike many other gases, vinyl chloride has no inherent warning properties. Where a gas has an odor and where a canister or cartridge is nearing or is at the end of its useful life, the worker is aware because he can smell the gas. Vinyl chloride is odorless and colorless. Thus, with due regard for the wearer's health, any cartridge or canister should possess an end-of-service-life indicator. Section 11.205 provides that after June 30, 1975, each canister or cartridge submitted for approval must have an end-of-service-life indicator.

The delay in this requirement is to give the Institute an opportunity to test the effectiveness of the indicators. Section 11.205 further provides that after December 31, 1975—when respiratory protection at 25 ppm or less becomes mandatory—respirators without an end-of-service-life indicator will not be considered approved for use by employees exposed to vinyl chloride. There is no delay in the effective date for the special tests adopted for vinyl chloride respirators.

Since it is essential that there are available approved respiratory devices for protection against exposure to vinyl chloride the Departments find that good cause exists for omitting notice of proposed amendments to Part II. Accordingly, these amendments, as set forth below, will be effective on December 30, 1974.

Dated: December 24, 1974.

JACK W. CARLSON,
*Secretary
of the Interior.*

Dated: December 10, 1974.

CASPAR W. WEINBERGER,
*Secretary of Health, Education,
and Welfare.*

In Part II a new Subpart N for special use respirators is established and Sections 11.200–11.208 applicable to vinyl chloride respirators are added to read as follows:

Subpart N—Special Use Respirators

Sec.	
11.200	Vinyl chloride respirators; description.
11.201	Required components.
11.202	Gas masks; requirements and tests.
11.203	Chemical-cartridge respirators; requirements and tests.
11.204	Powered air-purifying respirators; requirements and tests.
11.205	Requirements for end-of-service-life indicator.
11.206	Quality control requirements.
11.207	Labeling requirements.
11.208	Fees.

AUTHORITY: Secs. 202(h), 204, 508, 83 Stat. 763, 784, 803 (30 U.S.C. 842(h), 844, 957); secs. 2, 3, 5, 36 Stat. 370, as amended 37 Stat. 661 (30 U.S.C. 3, 5, 7); sec. 8(g), 84 Stat. 1600 (29 U.S.C. 657(g)).

§ 11.200 Vinyl chloride respirators; description.

Vinyl chloride respirators, including all completely assembled respirators which are designed for use as respiratory protection during entry into and escape from vinyl chloride atmospheres containing adequate oxygen to support life, are described according to their construction as follows:

- (a) Front-mounted or back-mounted gas masks;
- (b) Chin-style gas masks;
- (c) Chemical-cartridge respirators;
- (d) Powered air-purifying respirators; and,
- (e) Other devices, including combination respirators.

11.201 Required components.

(a) Each vinyl chloride respirator described in 11.200 shall, where its design requires, contain the following component parts:

- (1) Facepiece;
- (2) Canister with end-of-service-life indicator;
- (3) Cartridge with end-of-service-life indicator;
- (4) Harness;
- (5) Attached blower; and,
- (6) Breathing tube.

(b) The components of each vinyl chloride respirator shall meet the minimum construction requirements set forth in Subpart G of this part.

§ 11.202 Gas masks; requirements and tests.

(a) Except for the tests prescribed in 11.102–5, the minimum requirements and performance tests for gas masks, prescribed in Subpart I of this part, are applicable to vinyl chloride gas masks.

(b) The following bench tests are applicable to canisters designed for use with gas masks for entry into and escape from vinyl chloride atmospheres containing adequate oxygen to support life:

(1) Four canisters will be equilibrated at $25 \pm 5^\circ \text{C}$ by passing 85 ± 5 percent relative humidity air through them at 64 liters per minute for six hours.

(2) The equilibrated canisters will be resealed, kept in an upright position at room temperature, and tested according to subparagraph (3) of this paragraph within 18 hours.

(3) The canisters equilibrated and stored as described in subparagraphs (1) and (2) of this paragraph will be tested on an apparatus that allows the test atmosphere at 85 ± 5 percent relative humidity and $25 \pm 5^\circ \text{C}$ to enter the canister continuously at a concentration of 25 ppm vinyl chloride monomer at a total flow rate of 64 liters per minute.

(4) The maximum allowable penetration after six hours of testing according to subparagraph (3) of this paragraph shall not exceed 1 ppm vinyl chloride.

(c) Where canisters are submitted for testing and approval with a service life of more than four hours, the period of time for testing for vinyl chloride penetration will be performed at 150% of the service life specified in the manufacturer's application. Example: If a manufacturer requests approval of a respirator for six hours use against exposure to vinyl chloride, the maximum allowable penetration after nine hours of testing shall not exceed 1 ppm vinyl chloride.

11.203 Chemical-cartridge respirators; requirements and tests.

(a) Except for the tests prescribed in 11.162-8, the minimum requirements

and performance tests for chemical-cartridge respirators prescribed in Subpart L of this part are applicable to vinyl chloride chemical-cartridge respirators.

(b) The following bench tests are applicable to cartridges designed for use with chemical-cartridge respirators for entry into and escape from vinyl chloride atmospheres containing adequate oxygen to support life:

(1) Where two cartridges are used in parallel on a chemical-cartridge respirator, the bench test requirements will apply to the combination rather than the individual cartridges.

(2) Four cartridges or pairs of cartridges will be equilibrated at $25 \pm 5^\circ \text{C}$ by passing 85 ± 5 percent relative humidity air through them at 25 liters per minute for six hours.

(3) The equilibrated cartridges will be resealed, kept in an upright position, at room temperature, and tested according to subparagraph (4) of this paragraph within 18 hours.

(4) The cartridges equilibrated and stored as described in subparagraphs (1), (2), and (3) of this paragraph will be tested on an apparatus that allows the test atmosphere at 85 ± 5 percent relative humidity and $25 \pm 5^\circ \text{C}$, to enter the cartridges or pairs of cartridges continuously at a concentration of 10 ppm vinyl chloride monomer at a total flow rate of 64 liters per minute.

(5) The maximum allowable penetration after two hours of testing according to subparagraph (4) of this paragraph shall not exceed 1 ppm vinyl chloride.

11.204 Powered air-purifying respirators; requirements and tests.

(a) Except for the tests prescribed in 11.162-8, the minimum requirements and performance tests for powered air-purifying respirators prescribed in Subpart L of this part are applicable to vinyl chloride powered air-purifying respirators.

(b) The following bench tests are applicable to cartridges designed for use with powered air-purifying respirators for entry into and escape from vinyl chloride atmospheres containing adequate oxygen to support life.

(1) Four cartridges will be equilibrated at $25 \pm 5^\circ \text{C}$ by passing 85 ± 5 percent relative humidity air through them at 115 liters per minute for tight-fitting facepieces and 170 liters per minute for loose-fitting hoods and helmets, for six hours.

(2) The equilibrated cartridges will be resealed, kept in an upright position at room temperature and tested according to subparagraph (3) of this paragraph within 18 hours.

(3) The cartridges equilibrated and stored as described in subparagraphs (1) and (2) of this paragraph will be tested on an apparatus that allows the test atmosphere at 85 ± 5 percent relative humidity and $25 \pm 5^\circ \text{C}$ to enter the cartridge continuously at a concentration of 25 ppm vinyl chloride monomer at a total flow rate of 115 liters per minute for tight-fitting facepieces and 170 liters per minute for loose-fitting hoods and helmets.

(4) The maximum allowable penetration after six hours of testing according to subparagraph (3) of this paragraph shall not exceed 1 ppm vinyl chloride.

§ 11.205 Requirements for end-of-service-life indicator.

(a) After June 30, 1975, each canister or cartridge submitted for testing and approval in accordance with §§ 11.202, and 11.203, and 11.204 shall be equipped with a canister or cartridge end-of-service-life indicator which shows a satisfactory indicator change or other obvious warning before 1 ppm vinyl chloride penetration occurs. The indicator shall show such change or afford such warning at 80 ± 10 percent of the total service life to 1 ppm leakage, as determined by continuing each test described in paragraphs (b) of each of §§ 11.202, 11.203, and 11.204 of this Subpart until a 1 ppm leakage of vinyl chloride occurs. After December 31, 1975, a cartridge or canister without an end-of-service-life indicator will not be considered approved for use by employees exposed to vinyl chloride.

(b) The applicant shall provide sufficient pretest data to verify the performance of the end-of-service-life indicator required in paragraph (a) of this Section.

§ 11.206 Quality control requirements.

(a) In addition to the construction and performance requirements specified in Sections 11.201, 11.202, 11.203, 11.204, and 11.205 of this Subpart, the quality control requirements in paragraphs (b), (c), and (d) of this section apply to approval of gas masks, chemical cartridge respirators, and powered air-purifying respirators for entry into and escape from vinyl chloride atmospheres containing adequate oxygen to support life.

(b) The respirators submitted for approval as described in paragraph (a) of this Section shall be accompanied by a

complete quality control plan meeting the requirements of Subpart E of this Part.

(c) The applicant shall specify in the plan that a sufficient number of samples will be drawn from each bulk container of sorbent material and that where activated carbon is used, the following specific tests will be performed:

1. Apparent density,
2. Iodine number,
3. Moisture content,
4. Carbon tetrachloride number, and,
5. Mesh size.

Such tests shall be performed in a quantity necessary to assure continued satisfactory conformance of the canisters and cartridges to the requirements of this Subpart.

(d) Final performance quality control tests on the complete canisters and cartridges shall be accomplished using the bench tests and procedures prescribed in §§ 11.202, 11.203, 11.204, and 11.205 of this Subpart.

11.207 Labeling requirements.

A warning shall be placed on the label of each gas mask, chemical-cartridge respirator, and powered air-purifying respirator, and on the label of each canister and cartridge, alerting the wearer to the need for a fitting test in accordance with the manufacturer's facepiece fitting instructions, providing service life information, providing specific instructions for disposal, and advising that the wearer may communicate to NIOSH any difficulties that may be experienced in the design and performance of any gas mask, chemical-cartridge respirator, or powered air-purifying respirator approved under the requirements of this Subpart. The service lives of respirators meeting the test requirements of this Subpart shall be specified as follows:

- | | |
|---------------------------------------|---------|
| (a) Chemical-cartridge respirator. | 1 hour |
| (b) Gas mask | 4 hours |
| (c) Powered air-purifying respirator. | 4 hours |

(d) Where the service life of a respirator is approved for more than four hours, the service life for which the respirator has been approved will be specified.

11.208 Fees.

The following fees shall be charged for the examination, inspection, and testing of complete assemblies and components of respirators described in §§ 11.200 and 11.201 of this Subpart.

- | | |
|--|---------|
| (a) Complete gas mask | \$1,100 |
| (b) Complete chemical-cartridge respirator. | 1,150 |
| (c) Complete powered air-purifying respirator. | 1,500 |
| (d) Canister or cartridge only. | 750 |

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DEPARTMENT OF
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PUBLIC HEALTH SERVICE

CENTER FOR DISEASE CONTROL

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