

FILMS

1. *Mechanisms of Breathing* (EBF) 6122-1, Pennsylvania State University, Audio-Visual Aids Library, State College, Pa. or Encyc. Brit. Films, Inc. 1150 Wilmette Ave., Wilmette, Ill. (16mm sound, 11 min).
2. *Oxygen*, 16mm sound, 10 min., B&W and color, Coronet Films, Coronet Bldg. Chicago 1, Ill.
3. *The Air We Breathe*, 16mm sound, 26 min., B&W; Mine Safety Appliance Co., 5-45 49th Ave., Long Island City, N. Y. or local sales office.
4. *The City That Disappears* (Los Angeles), 16mm sound, color, 30 min., (Stanford Research Institute, Menlo Park, Calif.
5. *A Report on Smog*, 16mm sound, color, 20 min. (same source as 4).
6. *You Bet Your Life*, 25 min., 16mm sound B&W, available same source as 3.
7. *Use of Oxygen in Aviation*, TF1-4595, 22 min., 16mm sound, color, same source as 6.
8. *Oxygen, In-Flight Requirements*, TF-1-5038A, 25 min., 16mm sound, color, Air Force Training Films, Eastern Film Exchange, 1356 Film Library Flight (APCS) (MATS), Marietta Air Force Station, Marietta, Pa.
9. *Oxygen-In-Flight Equipment*, TF 1-5038B, 30 min., 16mm sound color, same source as 8.
10. *The Physiology of Anoxia*, 30 min., 16mm sound, B&W, same source as 11.
11. *The Breath of Life*, 10 min., 16mm sound color, H. J. Polk, Oxygen Therapy Dept., Linde Air Prod. Div., U.C.&C., 30 E. 42nd St., New York 17, N. Y.
12. *Safe and Efficient Oxygen Therapy*, 20 min., 16mm sound color, avail. same source as 11.
13. *Nitrogen Inhalation Therapy*, 10 min., 16mm silent color, Dr. H. E. Himwich, Galesburg State Research Hospital, Galesburg, Ill.
14. *Solvey Chlorine Emergency Devices*, 16mm silent color, 40 min., Research Dept., Solvey Process Div., Allied Chem. & Dye Corp., Solvey, N. Y. or local Solvey sales branch off.
15. *Use of the Air-Chem Suit*, 16mm sound, 30 min. color, Cost Reduction Section, Chamber Works, Organic Chemicals Dept., E. I. DuPont de Nemours & Co., Inc. (Penns Grove, N. J.) avail. both with magnetic sound tract & regular optical sound tract.
16. *Breathing Apparatus*, Fire Dept. Training Film, 16mm sound B&W, 30 min., Public Relations sect. Los Angeles Fire Dept., Los Angeles, Calif., also avail. as Navy Train. Film
17. *Breath of Life*, 16mm sound, color, 10 min., Scott Avia. Corp., Lancaster, N. Y.
18. *No. 2 Training Film*, 16 sound B&W, 20 min., Scott distributors.
19. *Damage Control, Oxygen Breathing Apparatus*, MN-6931A, 16mm sound, B&W, 22 min., Navy Train. Film, U. S. Naval Train. Aids Center, E. Coast, 207 W. 24th St., N. Y. 11, N. Y.
20. *Rescue Companies*, 16mm sound 30 min., by Warwick & Tompkins, Public Relations section, Los Angeles Fire Dept., Los Angeles, Calif.
21. *Nerve Gas Casualties & Their Treatment*, 16mm sound color, 30 min., State CD Offices, or thru the Federal CD Admin., Battle Creek, Mich. on Fed. contributions prog. or thru W. B. Jacques, E. R. Squibb & Co., 745-5th Ave., New York, N. Y.
22. *Gas Obstacle Course*, TF-14440, 16mm sound, B&W, 19 min., 1943 (Air Force) same source as 8.
23. *The Effects of Weather on the Travel of Smoke & Gas Clouds*, TF-1-4666, 16mm sound, B&W, 21 min., 1949, avail. same as 8.

A regular compressor and a standby compressor were provided on the air line. Over a week-end, both compressors were out of service, so bottled nitrogen was manifolded into the line by a temporary jumper connection to maintain instrument air pressure. An employee, aware of the circumstances, was told to wear a filter-type mask. By habit, however, he entered the area and was found dead several minutes later due to nitrogen inhalation in the air-line respirator he had worn instead of the filter-type mask.

Breathing air systems, using an approved compressor or tank system, should be closely supervised and used only for breathing. Employees whose work takes them out of contact (visual or audible) with others should be closely supervised. Human error caused this fatality.

CARBON TETRACHLORIDE AGAIN

Bunker C oil leaks had sprayed oil over the walls and ceiling of a small boiler room. Fearing the fire hazard which might result from using kerosene on the electrical equipment, the plant engineer had four men use a bucket of carbon tetrachloride with a long-handled brush.

Respirators of the proper type were provided and worn, but due to a missing part and poor fitting on one mask, one of the men became ill and was hospitalized three weeks with typical carbon tetrachloride poisoning symptoms.

A properly adjusted respirator, a less toxic solvent (such as 1,1,1-trichloroethane), and ventilation—any combination of these measures would have prevented this injury. It was also noted that the injured man occasionally consumed alcoholic beverages—a contra-indicated action in solvent areas.

PHOSGENE

A chemist suffered a major injury when phosgene gas containing dissolved HCl escaped from a cylinder too fast for the capacity of the hood. The chemist was wearing a Type N universal canister mask, but he noticed that his eyes were irritated when he took the mask off moments later in the fresh air.

Two men who worked alongside him were wearing air-line respirators and did not smell phosgene nor notice any eye or throat irritation. The chemist was hospitalized

for 10 days from a toxic exposure to phosgene fumes, and was absent from work for about one month. The two other men suffered no ill effects whatsoever.

NO RESPIRATORY PROTECTION

A chemist was decomposing a reaction mixture containing phosphorous oxychloride in a hood by pouring it over ice onto a four-liter beaker. While his back was turned, the reaction became violent and the mixture overflowed onto the hood floor. A small amount also spilled onto the laboratory floor, since he did not have a catchpan under the beaker.

He directed his laboratory assistant to leave the room promptly, but stayed behind to throw some ice on the spill on the floor and open windows. He re-entered the laboratory after 10 minutes, when the fumes had subsided considerably, and cleaned the spilled material off the floor. This required 10 minutes, during which period he inhaled some of the fumes, chiefly HCl. He did not use any respiratory protection, although it was available.

He did not notice any ill effects that day, other than eye and throat irritation, but he was hospitalized on the following day for bronchial and pulmonary congestion. He was in the hospital for four days.

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A vertical catalyst bed was being rodged out to remove solids. Dust and fumes from the solids being discharged at the bottom of the reactor were sufficient to cause coughing and discomfort to the operator, although spot ventilation was being used at the top of the column.

The operator continued to work out his shift, but that night he had an attack of nausea and vomiting, accompanied by persistent coughing. Following a recurrence of the original attack, he was admitted to a hospital for four days.

An air line respirator was readily available, although the magnitude of the dust hazard was not fully appreciated at the time.

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During the operation of a small scale reactor housed in a barricade, it was necessary to enter the barricaded area and withdraw condensate every half-hour. This removal consisted of opening a valve at the