

thermal degradation of cellulose is discussed, followed by the influences of oxygen chemisorption and of metal ions in the ignition and combustion of wood. Spontaneous heating, or the rate of isothermal heat evolution of lignocellulosic sheet materials in an air stream, is another paper, followed by the heat release from wood wall assemblies using the oxygen consumption method. The self-heating of lignocellulosic materials is another paper, as is the use of highly stabilized high-expansion foams in fighting forest fires.

The final section of the book deals with fire performance, testing and risk. It starts with the general principles of fire hazard and the role of smoke toxicity. The harmonization of fire testing in the European Community (scheduled for 1992) is presented, followed by the recent British regulations for upholstered furniture as it involves combustion-modified polyurethane foam. Heat release equipment to measure smoke is another paper, as is flammability characteristics of fiber-reinforced composite materials. Room fires and combustible linings, followed by fire hazards in a room due to a fire starting in a plenum, showing the effect of PVC wire coating, concludes the book.

The book is well referenced, and carefully indexed. It should be of much interest to polymer chemists, fire administrators, regulators and anyone involved in chemical health and safety in the real world. The editor and authors are to be commended for an outstanding book.

HOWARD H. FAWCETT

Out of Control, by Ralph Nader (narrator), available for purchase from Oil, Chemical and Atomic Workers, PO Box 2812, Denver, CO 80201, 32 min $\frac{1}{2}$ in. VCR tape, price on request.

A series of serious incidents in the petrochemical industry since 1984, including one on October 23, 1989 which resulted in 23 fatalities and 272 injuries, with particles of iron falling over a 6-mile radius, prompted a number of investigations. One, by the John Gray Institute, documents a study of safety and health practices as they pertain to the Reliance Upon Contractors in Selected Petrochemical Industries (April 20, 1990), prompted the production of this tape. The Oil, Chemical and Atomic Workers International, whose 100,000 members constitute the major manpower resource, reviewed and summarized the findings in a dramatic fashion, finding that the use of outside 'contract' employees with only limited training or expertise, was an important factor in many of these serious incidents.

The tape is a combination of personal statements by employees of several major oil refineries, supplemented by engineering and economic input, superimposed on fire and explosion views to highlight the problem. The tape stresses that the complex intricate nature of plant equipment requires intimate knowl-

edge and experience not usually furnished by most contract employees. Since contract employees may be compensated at up to \$ 6 per hour less than regular employees, and 40,000 contract employees are presently at work in the industry, the economic aspect is clearly seen.

In conclusion, the tape suggests a seven point program to improve the situation:

- (1) Right to know; risk assessments of an industry and its insurers should be available.
- (2) The operators should have the right to act.
- (3) The operators should be able to refuse unsafe work without threat of demotion or discharge.
- (4) Criminal penalties should be addressed against management who attempt to 'cover-up' unsafe practices.
- (5) Safety standards should be brought up-to-date to the state of the art for all employees.
- (6) No double standards for contract vs regular employees.
- (7) Non-reporting of injuries by contract employees must be halted.

While the jury is still out, this tape and the accompanying documentation is worthy of serious consideration.

HOWARD H. FAWCETT

Your Right-to-Know (20 min) \$ 465

Chemical Safety I, Proper Handling (19.30 min) \$ 465

Chemical Safety II, Health Hazards (20.30 min) \$ 465

Chemical Safety III, Fire and Explosions (20 min) \$ 465, available from Tel-A-Train, Inc., Chattanooga, TN 37405, VCR $\frac{1}{2}$ in. tapes.

These four tapes are intended as training aids to insure that all personnel are aware of their responsibility under the US PL 99-499, Title III (also known as SARA).

The first, on *Right-to-Know*, introduces the viewer to the requirement that all workers be familiar with the Material Safety Data Sheets (MSDS) for the substances with which they work, and the meaning of the various parts of these sheets. The importance of fully understanding and complying with the recommendations are stressed.

Chemical Safety I stresses the fundamentals involved in moving, reactions and isolation of the hazard to reduce body contact. The importance of being certain the materials is of the proper strength, purity and temperature is noted in detail. Knowing what the chemical is going to do insofar as evaporation rate is given much attention. The importance of emergency procedures is outlined in some detail.