THE PROPER HANDLING OF AROCLORS AND THEIR MIXTURES IN THE ELECTRICAL INDUSTRY

Monsanto Chemical Co.
Organic Div. Sales Dept.
800 N. Delmar Blvd.
St. Louis, Mo.

P. G. Benignus
12/1/54





906649

ACM 001811

WATER_PCB-00049847

INDEX

Introduction	The Proper Handling of the Aroclors and Their Mixtures in the Electrical Industry.
Chapter 1	Procedure for Unloading Tankcars of Aroclors and Their Mixtures. A. Description of the Cars. B. Procedure for Unloading the Cars.
Chapter 2	A. General Description of Storage Tanks. B. Detailed Description of Storage Tanks.
Chapter 3	Gasketing and Pump Packing.
Chapter 4	Sampling.
Chapter 5	Laboratory Analysis and Procedure for Treating Aroclors and Their Mixtures.
Chapter 6	Test Procedures.
Chapter 7	Typical Properties.
Chapter 8	Earth Treatment of Aroclors and Their Mixtures in the Electrical Industry Prior to Use.
Chapter 9	Dermatology and Toxicology.

Attachments:
Drawing No. 31-20848, Dome Detail.
Drawing No. 31-20847, The Tank Car.
Drawing No. 9C-8170-5, The Horizontal Storage Tank.
Drawing No. D-13362, The Vertical Storage Tank.
Drawing No. 9C-8248, The Breather.
Drawing No. 9C-8278, The Varec Gauge.
Drawing No. 9C-8178, The Unloading Platform.

WATER_PCB-00049848

CHAPTER 9

DERMATOLOGY AND TOXICOLOGY

Skin patch tests using Aroclor 1254 (biphenyl chlorinated to the extent of 54% by weight) applied to gauze and placed in contact with the skin showed no primary irritancy or sensitization. The tests were conducted under competent medical supervision and the standard procedure recommended by Drs. Louis Schwartz and Samuel M. Peck, Reprint No. 2552, Public Health Reports, Vol. 59, No. 19 (April 28, 1944) was used.

If Aroclors are spilled on the skin, the skin should be washed in the usual manner with soap solutions. If accidental burns occur from contact with hot Aroclors, the burn should be treated the same as any ordinary burn. Aroclor adhering to the burned area need not be removed immediately unless treatment of the burn demands it, in which case use soap and water or repeated washings with a vegetable oil.

At ordinary temperatures Aroclors have not presented industrial toxicological problems.

If Aroclors are used at elevated temperatures in open systems, methods must be designed to exhaust any vapors arising. Experimental work on animals indicates that the maximum safe concentrations of vapors in workrooms is in the range of 0.5 to 1.0 milligram per cubic meter of air. This applies to all of the liquid Aroclors.

Laboratory technique merely requires keeping the hands

906651

ADM 001885

WATER_PCB-00049849

free of the liquid and handling it under a well ventilated hood.

Localized or spot ventilation together with general workroom exhaust is recommended for plant operations.

When sampling tank cars, canvas gloves and safety glasses or goggles should be worn. No special clothing is required, but the worker's garments should be laundered at least weekly and changed in case Aroclor or Aroclor mixtures is spilled on the clothes accidentally.

If workmen are exposed to Aroclor vapors at relatively high levels, as may be the case when opening a heated capacitor impregnating chamber, a respirator should be worn during these short intervals.

The many years of satisfactory and safe use of Aroclors and their mixtures with chlorinated benzenes in the electrical industry for impregnating capacitors and filling transformers has demonstrated the industry's ability to handle these fluids without hazard to the workmen. It is a simple matter and in line with good "housekeeping" and personal cleanliness to exercize the suggested and required precautions in all cases.

906651A ADM 001886

WATER_PCB-00049850