

SWANN CHEMICAL COMPANYA BRIEF DESCRIPTION OF THE AROCLORS

The Aroclors are a series of chlorinated diphenyl products varying from water-white mobile liquids and pale yellow viscous oils to light amber resins and opaque crystalline solids.

NON-FLAMMABILITY

The viscous Aroclor oils and the resins, do not support combustion when heated alone even at their boiling points - temperatures above 360°C. Most of the Aroclors flux readily with resinous and pitch-like materials to give a product having a decreased fire hazard.

ELECTRICAL PROPERTIES

The Aroclors have excellent electrical characteristics; high dielectric constant and resistivity, low power factor.

SOLUBILITY

The Aroclor oils and resins are easily soluble in most of the common organic solvents and drying oils. The hard crystalline materials are in general less soluble than the oils or resins. All Aroclors are insoluble in water. For more complete information see the attached table.

ADHESIVENESS

The Aroclor resins adhere strongly to glass and metal. It has been demonstrated by laboratory measurements that joints between metal and glass surfaces made with Aroclor 4465 have a greater tensile strength than similar joints made with glue, shellac, and certain trade cements. Joints made by the use of Aroclors have the property of setting very quickly. It must be understood, however, that the Aroclors are thermoplastic and that joints made with Aroclors are, therefore, weakened by warming.

THERMOPLASTICITY

The Aroclors are thermoplastic, and apparently undergo no further condensation or hardening upon repeated melting and cooling. The Aroclor resins are now being produced with softening points up to 79°C. The softening point determinations have been made in accordance with the A.S.T.M. standard tests for pitches.

NON-DRYING PROPERTIES

The Aroclors are non-drying, and when they are exposed to the air no noticeable oxidation or hardening takes place.

VAPORIZATION LOSS

The clear resins have rather low vaporization losses. At 65.6°C (150°F) these losses are less than 0.04 g. per square inch of surface per month.

TOXICITY

The Aroclors, so far as is known, have no harmful physiological action. When they are applied to the skin, there is no evidence that they are vesicants. The vapors, however, will irritate the membranes of the nose and throat.

ODOR AND TASTE

The Aroclor viscous oils and resins are almost without odor and taste at ordinary temperatures.

REFRACTIVE INDICES

The refractive indices of these materials are above 1.6125.

STABILITY

The Aroclors in general are stable on long heating at 150°C. and are not affected by boiling with sodium hydroxide solution. The light oils can be distilled at atmospheric pressure without appreciable decomposition and the viscous oils and resins distill readily under vacuum.

CORROSIVENESS

The Aroclors have practically no corrosive action when applied to metallic surfaces. Specific data have been determined covering the exposure of mild steel to Aroclor 1819 over a period of 1776 hours at 550°C.

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