A large number of chemical compounds induce depigmentation in humans and in experimental animals (Fig. 191, Table 112). Cutaneous chemical depigmentation, which often resembles vitiligo in clinical appearance, may result from direct contact or from systemic exposure (ingestion or particularly inhalation) to various phenol derivatives, sulphydryl compounds, and others (Fig. 192). Some of these compounds have also purportedly been found in commercially available consumer products, and accidental exposures have occurred historically in the course of many industrial processes. Both careful research discovery and serendipity seem to increase the growing list of known chemical depigmenting agents. There are likely important and common depigmenting agents yet to be revealed.

Leukoderma has been attributed to the monobenzylether of hydroquinone contained in rubber-covered wire-disk trays [1,2], adhesive tape [3,4], hat bands [3], contraceptive diaphragms [2], rubber finger cots [3], rubber clothing [5], rubber aprons [3], powdered rubber condoms [6,7], rubber dolls [8], neoprene (a synthetic rubber) [9], fabric-lined rubber gloves [10], and shoes (rubber cement) [11].

Paratertiary butylphenol is used as an intermediate in the processing of varnish and lacquer resins, as an ingredient in motor oil demulsifier, as a soap antioxidant, as a plasticizer for cellulose acetate, as a rubber antioxidant, as an intermediate in synthetic oil, and as an ingredient in insecticides, deodorants, commercial detergents, germicidal disinfectants, writing ink, and latex adhesives [12].

Paratertiary amyl phenol is used in the manufacture of oil-soluble resins, and as a plasticizer, commercial germicide, and fumigant [12].

The germicidal phenolic detergents in Tables 113 and 114, which contain paratertiary butylphenols and paratertiary amylphenols, are potential depigmenting agents.

Ortho-benzyl-para-chlorophenol (chlorophene) is used widely as a disinfectant, cleaner, and preservative. Ortho-phenylphenol is used as a germicide and as an intermediate in the production of dyes [12].
Figure 191. Structures of some depigmenting phenol derivatives.