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CASE STUDY 3. VINYL CHLORIDE - BEST AVAILABLE TECHNOLOGY
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Promulgation of a standard regulating occupational exposure to vinyl chloride (VC) by OSHA on October 4, 1974, marked the initial Federal attempt to regulate occupational exposure to a carcinogen on the basis of available analytical methodology. Demonstration of carcinogenicity of VC had included experimental animal studies performed by separate investigators and a continuing case list of human cancer in workers occupationally exposed to VC. Although various tumors were observed both in experimental animals and in occupationally exposed workers, the finding of angiosarcoma of the liver in both instances revealed a definite correlation between chemical exposure and induction of cancer. The significance of polyvinyl chloride (PVC) production to the Nation's economy rendered impractical even de facto elimination of this important industry through unattainable controls prescribing "zero" employee exposure to VC. Rather, exposure to VC was limited to one ppm as an 8-hour TWA and 5 minutes as a 15-minute TWA. The one ppm exposure limit was based on recommendations made to OSHA by NIOSH and represented the sensitivity of available analytical methodology for determination of compliance.