

**CHEMICALS MEETING THE CRITERIA FOR LISTING AS CAUSING
CANCER VIA THE AUTHORITATIVE BODIES MECHANISM**

**PACKAGE 19b.4
July 19, 2002**

Reproductive and Cancer Hazard Assessment Section
Office of Environmental Health Hazard Assessment
California Environmental Protection Agency

The chemical listed in the table below meets the criteria for listing under Proposition 65 via the authoritative bodies listing mechanism. The regulatory guidance for listing by this mechanism is set forth in Title 22, California Code of Regulations (CCR), Section 12306. For example, the regulations include provisions covering the criteria for evaluating the documentation and scientific findings by the authoritative body to determine whether listing under Proposition 65 is required.

The National Toxicology Program (NTP) is one of five institutions which have been identified as authoritative bodies for the purposes of Proposition 65 (22 CCR 12306(1)). NTP has identified the chemical in the table below as causing cancer. The Office of Environmental Health Hazard Assessment (OEHHA) has found that this chemical is “formally identified” as causing cancer according to the regulations covering this issue (22 CCR 12306(d)). The chemical below is the subject of a report published by the authoritative body which concludes that the chemical causes cancer. Also, the document specifically and accurately identifies the chemical and meets one or more of the criteria outlined in 22 CCR 12306(d)(2).

OEHHA also finds that the criteria given in regulation for “as causing cancer” (22 CCR 12306(e)) have been satisfied for the chemical in the table below. In making this evaluation, OEHHA relied upon the discussion of data by the authoritative body in making its findings that the specified chemical causes cancer. A brief discussion of the relevant carcinogenesis studies providing evidence for the findings is presented below. The statement in bold reflects data and conclusions that satisfy the criteria for the sufficiency of evidence for carcinogenicity (22 CCR 12306(e)). The full citation for the authoritative body document is given in this report.

Chemical	CAS No.	Chemical Use	Reference
Strong inorganic acid mists containing sulfuric acid	-----	Generated during a variety of manufacturing processes during which sulfuric acid is used or produced.	NTP (2000)

Strong inorganic acid mists containing sulfuric acid

Evidence of a causal relationship between strong inorganic mists containing sulfuric acid and cancer.

NTP has listed strong inorganic acid mists containing sulfuric acid as known to be a human carcinogen in the NTP's *Ninth Report on Carcinogens* (NTP, 2000). The identification was based on sufficient evidence of carcinogenicity from studies in humans that indicate a causal relationship between exposure to strong inorganic acid mists containing sulfuric acid and human cancer. The *Ninth Report on Carcinogens* cites IARC's classification of occupational exposure to strong inorganic acid mists containing sulfuric acid in Group 1 (carcinogenic to humans) [IARC, 1992].

Occupational exposures to strong inorganic acid mists containing sulfuric acid have been associated with laryngeal and lung cancer in humans. The studies cited by NTP (2000) are as follows: Steenland *et al.* (1988) reported excesses in laryngeal cancer in studies of male workers in pickling operations in the steel industry [standardized incidence ratio (SIR) for laryngeal cancer was 2.30 (95% confidence interval [CI], 1.05-4.36)]. In a ten-year follow-up, Steenland (1997) reported a laryngeal cancer rate ratio of 2.2 (95% CI, 1.2-3.7), consistent with previous findings. In a nested case-control study of workers in a U.S. petrochemical plant, Soskolne *et al.* (1984) reported a dose-response for laryngeal cancer risk among workers exposed to moderate (odds ratio of 4.6; 95% CI, 0.83-25.35) or high levels (odds ratio of 13.4; 95% CI, 2.08-85.99) of sulfuric acid. In a Canadian population based case-control study, Soskolne *et al.* (1992) observed a dose-response for laryngeal cancer risk in workers exposed to sulfuric acid mist, with an odds ratio of 2.52 (95% CI, 0.80-7.91) at the lowest levels of exposure and 6.87 (95% CI, 1.00-47.06) at the highest. A population based case-control study in Canada by Siemiatycki (1991) suggested an increase in risk for oat-cell carcinoma of the lung (relative risk of 2.0; 90% CI, 1.3-2.9). Steenland and Beaumont (1989), reporting on the same cohort of workers described by Steenland *et al.* (1988), found an excess of lung cancer in these workers [standardized mortality ratio (SMR) for lung cancer was 1.36 (95% CI, 0.97-1.840)].

NTP (2000) noted that no adequate experimental animal carcinogenicity studies of sulfuric acid or strong inorganic acid mists containing sulfuric acid have been reported in the literature.

REFERENCES

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