



## **CAS 1330-78-5 - Tricresyl phosphate (TCP)**

### **Toxicity**

TCP is classified by the EPA as a high hazard for reproductive toxicity based on studies of rodents fed TCP. Adverse health effects included reduced fertility, sperm motility, number of live pups per litter, testicular and epididymal weights, and increased incidence of interstitial cell hypertrophy and ovarian interstitial cell vacuolization.<sup>1</sup>

Ovarian and adrenal gland lesions were observed in rats and liver and adrenal gland lesions in mice fed an isomer mixture of TCP for 2 years in an NTP study.<sup>2</sup> Rodents fed TCP for 13 weeks developed neuropathy.<sup>1,3</sup>

TCP has been shown to influence neurological damage in humans.<sup>1,4,5</sup>

There are three tricresyl phosphate isomers, of which, the *ortho* isomer demonstrates the highest toxicity.<sup>6</sup>

### **Exposure**

According to the World Health Organization there is no safe level of exposure to TCP.<sup>5</sup>

TCP has been used as a flame retardant in fabric, plastics and rubbers and as a plasticizer in PVC, lacquers, varnishes and nitrocellulose. It is also used as a heat exchange medium and hydraulic fluid.<sup>2,3,7</sup> TCP was detected in all house dust samples gathered in two different North American studies.<sup>8</sup> Biomonitoring studies detected TCP in the breast milk of women in Asia and Sweden.<sup>9,10</sup> EPA has characterized TCP to exhibit moderate persistence in the environment based on biodegradation studies.<sup>3</sup>

### **Other**

A mixture of isomers makes up commercial TCP.<sup>11</sup>

### **References**

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