

## Titanium Dioxide and California Proposition 65

October 5, 2011

On September 2, 2011, the state of California listed titanium dioxide (airborne, unbound particles of respirable size) as a carcinogen under Proposition 65 using the Labor Code mechanism. This will not require warnings on products containing titanium dioxide (TiO<sub>2</sub>), such as paint, plastics, and paper, however, TiO<sub>2</sub>-containing products sold in California that meet the listing criterion (airborne, unbound particles of respirable size) will require the warning beginning no later than September 1, 2012. Employee communications for those working with dry TiO<sub>2</sub> will also be required as of the same date.

The listing is based on the International Agency for Research on Cancer's (IARC), an arm of the World Health Organization, change of the classification of TiO<sub>2</sub> to possibly carcinogenic to humans (2B). This Monograph, No. 93, was published in November 2010. It can be accessed at <http://monographs.iarc.fr/ENG/Monographs/vol93/index.php>.

The IARC reclassification was based on two studies in which rats (a uniquely sensitive species to lung overload effects) were exposed to excessive concentrations of TiO<sub>2</sub> in a closed chamber for extended periods of time. The agency's classification system requires it to classify a material as carcinogenic based on the results of animal studies even though multiple real-world epidemiological studies found no association between TiO<sub>2</sub> and lung cancer in humans.

The Titanium Dioxide Stewardship Council's (TDSC) position on this issue is:

- TiO<sub>2</sub> is safe for the people who manufacture it when used with appropriate industrial hygiene practices.
- TiO<sub>2</sub> is safe for the people who work with it, as directed, in its intended uses as an ingredient in coatings, paper, and plastics.
- TiO<sub>2</sub> is safe for the people who use finished products containing it.
- There is no human evidence to suggest that TiO<sub>2</sub>, in any form, is an occupational carcinogen.

As stated above, our position is based on real-world epidemiological studies done in our own industry. The researchers who conducted these studies followed some 20,000 people who worked in both European and U.S. TiO<sub>2</sub> manufacturing plants over a period of more than 40 years. These epidemiology studies did not show an increase in lung cancer in the TiO<sub>2</sub> workforce as a result of exposure to TiO<sub>2</sub> dust.