



Tronox Titanium Dioxide

September 22, 2017

Carcinogenicity

At Tronox, we place the highest priority on the safety of our employees, contractors and customers. We emphasize safety throughout our operations around the world and have procedures and training in place to make sure that we handle materials in an appropriate and safe manner. We carefully review scientific studies related to our products, comply with all applicable regulations, and regularly update our Safety Data Sheets (SDS) to provide users with current information.

Tronox titanium dioxide is a synthetic or manufactured product made by purifying and concentrating a naturally occurring titanium dioxide bearing ore. Tronox titanium dioxide is a white pigment offered in dry powder and liquid slurry form.

The classification of titanium dioxide has been based on the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 5th revision, chapter 3.6 (2013), USA OSHA-HCS 2012, and the Criteria of the EU as laid down in regulation (EC) 1272/2008, Annex I, section 3.6.

ECHA-REACH

Only one REACH registration dossier, which was submitted by TDIC Reach Consortium, was listed and does not include any classification for titanium dioxide. For more information please see; <http://www.tdma.info/reach>

ECHA-CLP

Titanium dioxide is not legally classified for any endpoint in Annex VI of regulation (EC) 1272/2008.

GESTIS

In the GESTIS substance database titanium dioxide is not classified as dangerous substance according to GHS.

OSHA-HCS

Titanium dioxide is not classified under Occupational Safety and Health Administration, Hazardous communication Standards.

Tronox titanium dioxide may not be directly added to food, pharmaceuticals, or cosmetics. Tronox titanium dioxide may not be used for implantable medical devices used for life-sustaining or life-supporting applications in humans.

The information set forth herein is furnished free of charge and based on technical data that Tronox believes to be reliable, to the best of knowledge. Nothing herein is to be taken as license to operate under or a recommendation to infringe any patents. This information and our technical advice - whether verbal, in writing or by way of trials -are given to the best of our knowledge but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to check its validity and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with our General Conditions of Sale and Delivery.

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Carcinogenicity, continued

EPA

Titanium dioxide is not classified by the US Environmental Protection Agency.

Scientific Studies on TiO₂

Two peer-reviewed scientific studies of approximately 20,000 industry workers in 15 American and European TiO₂ manufacturing plants, over a 40-year period, found no connection between lung cancer or other cancers and exposure to TiO₂.

Animal studies on inhalation exposure to TiO₂ have been conducted, with varying results. Mice and hamsters did not develop lung tumors; however, after two years of exposure to extraordinarily high TiO₂ dust levels, far above those experienced in any workplace, some rats developed lung tumors.

IARC TiO₂ Classification

Based on the two human studies, IARC decided that there is inadequate evidence of carcinogenicity in humans. However, based entirely on the rat inhalation studies and consistent with its rigid guidelines for categorizing agents, IARC re-categorized TiO₂ from “Group 3 – not classifiable as to its carcinogenicity in humans” to “Group 2B – possibly carcinogenic to humans.” Detail explanation can be found in joint statement from TDMA¹ / TDSC² on this link.

http://tio2industry.org/docs/Product_Safety_Statement.PDF

NIOSH TiO₂ Classification

Please see the link below for TDSC² statement on this subject.

http://tio2industry.org/docs/Position_Statement_NIOSH_CIB_63.PDF

Tronox LLC is a member of TDMA¹ and TDSC².

Based on the information provided, Tronox titanium dioxide products do not have any hazardous classification or label pictogram.

Please contact Tronox product stewardship manager with questions regarding this statement, ChemProdSteward@tronox.com

1 Titanium Dioxide Manufacturers Association

2 Titanium Dioxide Stewardship Council

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