

# GILSONITE SELECTS

## HEALTH SAFETY

Gilsonite has excellent health safety characteristics. There are no detectable levels of polynuclear aromatics (PNA's) or polychlorinated biphenyls (PCB's). Gilsonite products are non- carcinogenic, non-mutagenic, and non-toxic. Details can be found in the OSHA Materials Safety Data Sheets for gilsonite products.

Health safety has become a most important factor in the selection of resinous products. More restrictive regulations in the U.S., Europe, and Asia now make it necessary to label products that contain resins with poor or marginal health safety properties. Certain resins and bituminous fractions that are derived from petroleum and coal now can only be used with proper hazard labeling. Gilsonite is a valuable, no-label, alternative to these hazardous products.

## Documentation

Gilsonite in its unaltered state is non-carcinogenic, non- mutagenic, and non-toxic by recognized test procedures, which include the modified Ames assay test, chronic feeding studies for the National Toxicology Program (NTP), and NIOSH protocols. It has also been documented by the State of Utah that long-term exposure to gilsonite, especially dust, does not contribute to dermatitis, lung disease, or any other disease. However, it is recommended that dust masks or respirators be used in long-term exposure situations.

## High Temperature Processing

Although gilsonite is not a carcinogen, processes in which gilsonite is subjected to very high temperatures may alter its complex hydrocarbon structure and may produce carcinogenic substances. Thermal cracking of complex hydrocarbons is known to produce some polynuclear aromatic hydrocarbons, some of which are known to be carcinogenic and mutagenic. Ames mutagenicity screening of gilsonite samples heated to 650°F and allowed to cool were found to have a mutagenic component. In another study,

Gilsonite fractions that had been distilled at 2500°F were found to be carcinogenic when applied in benzene solution form to the skin of mice.

The significance of these findings to human health is unknown. However, it is recommended that skin contact or breathing of vapor or mists of thermally cracked gilsonite fractions should be avoided or reduced to a minimum.



**ZIEGLER CHEMICAL & MINERAL CORP.**

600 PROSPECT AVENUE • PISCATAWAY, NEW JERSEY 08854  
PHONE: 1-732-752-4111 • FAX: 1-732-752-4114  
www.zieglerchemical.com

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## **Fire and Explosion Considerations**

Gilsonite will burn with a slow moving, low, blue flame in the presence of an ignition source. However, under most conditions, burning will stop when the source of ignition is removed.

Always be alert to the explosion hazard associated with Gilsonite dust in the air. It behaves much like coal dust in this respect. At a critical concentration, the dust can burn or explode in the presence of an ignition source. When good plant cleaning procedures are used to avoid dust buildup, gilsonite is a problem-free product to use.

## **Use With Food Products**

Gilsonite products are approved by the U.S. Food and Drug Administration for use in resinous and polymeric coatings that come into direct contact with food. Gilsonite falls under Section §175.300 (formerly Section §121.2514) of the FDA regulations, Part 3, subpart (iv), which lists gilsonite as one of several approved natural resins.

Gilsonite is one of several common names for a natural occurring hydrocarbon mineral known as Uintaite.

Technically, it would have been more accurate for the FDA to list "Uintaite", rather than one of its several tradenames. However, the appearance of one tradename for Uintaite on the FDA list means that, by inference, all other Uintaite products are also covered by the FDA listing.



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