

CHRONIC EFFECTS

Over exposure to a component of this material has been suggested as a cause of liver abnormalities in laboratory animals.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Eye or skin disease.

REPORTED AS CARCINOGEN OR POTENTIAL CARCINOGEN

Not Applicable

National Toxicology Program (NTP)

OSHA

International Agency for Research on Cancer (IARC)
(See Section 11)

4. FIRST AID MEASURES

Inhalation: Remove from area to fresh air. If not breathing, clear airway and start mouth-to-mouth artificial respiration or use a bag mask respirator. Get immediate medical attention. If victim is having trouble breathing, transport to medical care and if available, give supplemental oxygen.

Eye Contact: Immediately rinse eyes with water. Remove any contact lenses. Hold eyelids apart to ensure rinsing of the entire surface of the eyes and lids with water. Continue flushing eyes with running water for at least 15 minutes. Get medical attention if irritation develops.

Skin Contact: Wash affected areas with large amounts of running water and soap if available, for 15 minutes. Remove contaminated clothing and shoes. Wash clothing and decontaminate shoes before re-use. Get medical attention if irritation develops and persists.

Ingestion: **DO NOT** induce vomiting. Do Not give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

NOTE TO PHYSICIAN - NONE

5. FIRE FIGHTING MEASURES

Flash Point and Method >200 °F.

GENERAL HAZARD This product is combustible

EXTINGUISHING MEDIA

For small fires, use foam, CO₂ or dry chemical. For large fires, use water spray, fog, or foam.

SPECIAL FIREFIGHTING INSTRUCTIONS

Move containers from area if it can be done without risk.

FIREFIGHTING EQUIPMENT

As in any fire, wear NIOSH approved, positive-pressure self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Wear appropriate protective equipment: (See Section 8). Ventilate area. Observe all local, state and federal regulations.

7. HANDLING AND STORAGE

HANDLING

Wear appropriate protective equipment (See Section 8). Avoid contact with eyes, skin and clothes. Avoid breathing vapors. Keep container closed when not in use. Use with sufficient ventilation to keep area below established exposure levels. Wash thoroughly after handling

Product is combustible.

STORAGE

Keep container tightly closed. Isolate from incompatible materials (See Section 10).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Use local exhaust or general dilution ventilation system.

PERSONAL PROTECTION

Respirator: Use NIOSH approved equipment only. For exposure above the exposure limit, use a respirator that has been selected by an industrial hygienist or other technically qualified person for the specific work conditions. If respirators are used, OSHA requires compliance with its respiratory program.

Eye Protection: Wear vented safety goggles or safety glasses.

Gloves: Nitrile gloves.

Clothing: Wear clothing that will protect the skin from exposure to this chemical. During emergency or while making repairs, wear clothing that will not allow this chemical to penetrate.

Other: Eye Wash.

EXPOSURE CONTROLS

Component	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Titanium Dioxide*	15 mg/m ³	N/E	10 mg/m ³	N/E
Carbon Black*	3.5 mg/m ³	N/E	3.5 mg/m ³	N/E
Calcium Carbonate*	15 mg/m ³	N/E	10 mg/m ³	N/E

- Exposure limits are provided for information only. This chemical is not in a respirable form in this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

State	Paste	pH	N/A
Color	N/A	Vapor Density	N/E
Odor	Mild	Reactivity in Water	Incompatible
Melting Point °F	N/E	Specific Gravity	~1.3 – 1.4

Boiling Point

N/E

Water Solubility

Slightly Soluble

10. STABILITY AND REACTIVITY

REACTIVITY

Stable.

INCOMPATIBILITIES

Avoid contact with acids and oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS

May form oxides of carbon and various unidentified organic compounds.

CONDITIONS TO AVOID

Avoid temperatures above 120 °F.

11. TOXICOLOGICAL INFORMATION

For Carbon Black: IARC – Group 2B (Possibly carcinogenic to humans)

For Product: Not Established.

For Titanium Dioxide: Trochimowicz, et al., J. Appl. Tox., 8, 383-385 (1988).

Oral LD ₅₀ (rat)	>25 g/kg
Dermal LD ₅₀ (rabbit)	>10 g/kg
Inhalation LC ₅₀ (rat)	>6.82 mg/l (4hr)

E.I. DuPont's Haskel Toxicology Laboratory conducted lifetime inhalation studies of respirable titanium dioxide at levels up to 250 mg/m³; no compound related clinical signs of toxicity were seen in the exposed animals. Slight pulmonary fibrosis was seen at 50 to 250 mg/m³ respirable titanium dioxide but not at 10 mg/m³. There was no evidence of cancer in animals exposed to 10 or 50 mg/m³ respirable titanium dioxide. Microscopic lung tumors were seen in 17% of the rats exposed to 250 mg/m³ respirable titanium dioxide. The lung tumors observed in the rats were different from common human lung cancers, relative to anatomic type and location, and occurred only at dust levels which overwhelmed the animals lung clearance mechanism and therefore, are questionable biological relevance for humans.

Results of a DuPont epidemiology study showed that employees who had been exposed to titanium dioxide pigments were not greater risk of developing lung cancer than were employees who had not been exposed to titanium dioxide pigments. No pulmonary fibrosis was found in any of the employees and no associations were observed between titanium dioxide pigment exposure and chronic respiratory disease or lung abnormalities. Based on the results of this study, DuPont concluded that titanium dioxide pigment will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the workplace.

The National Cancer Institute (NCI) conducted a feed study in rats and mice in which either 25,000 or 50,000 parts per million titanium dioxide was given in their diet for two years. Under the condition of the NCI test, Titanium dioxide did not cause cancer by the oral route.

Titanium dioxide has been classified by the American Congress of Governmental Industrial Hygienists (ACGIH) as an A4 Carcinogen – *Not Classifiable as a Human Carcinogen*. ("1999 TLVs and BEIs," p. 67). It has been classified by the International Agency for Research on Cancer (IARC) as Group 3 – *Not Classifiable as to Its Carcinogenicity to Humans*. (IARC Monograph 47, 1989)

12. ECOLOGICAL INFORMATION

For Product

Not Established

13. DISPOSAL CONSIDERATIONS

RCRA Waste Code: Not Regulated. Observe all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT Proper Shipping Name Not Regulated

15. REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)

Hazardous Non-Hazardous

CERCLA/SUPERFUND (40 CFR 117, 302)

Chemical Name	RQ (lbs)/(kg)
N/A	N/A

SARA EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355)

Chemical Name	TPQ (lbs)	RQ (lbs)
N/A	N/A	N/A

SARA HAZARD CATEGORIES (40 CFR 370)

Acute Chronic Fire Pressure Reactive None

SARA TOXIC CHEMICALS (40 CFR 372)

Chemical Name	CAS Number	%
N/A	N/A	N/A

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (CPR Section (33))

This product has been classified according to the hazard criteria of the Controlled Products Regulations, and the MSDS contains all required information.

Controlled Product: Classification: D2B Not a Controlled Product

INVENTORY STATUS

The ingredients of this chemical are listed on the US TSCA Chemical Substance Inventory and the Canadian Domestic Substances List.

TOXIC SUBSTANCES CONTROL ACT

No specific regulations apply.

STATE REGULATIONS

California Proposition 65

Crystalline Silica – Warning – This chemical is known to the State of California to cause cancer.

Massachusetts Right to Know List

Carbon Black, Titanium Dioxide

Minnesota Hazardous Substance List

Carbon Black, Titanium Dioxide

New Jersey Right to know List

Carbon Black (SN 0342), Titanium Dioxide (SN 1861)

Pennsylvania Right to Know List

Carbon Black, Titanium Dioxide

Rhode Island Hazardous Substance List

Carbon Black, Titanium Dioxide

16. OTHER INFORMATION

ABBREVIATIONS

C – Ceiling Limit

LC_{Lo} – The lowest concentration of a substance in air that will kill a test animal within a certain exposure period.

LC₅₀ – The concentration of a substance in air that will kill 50% of test animals within a certain exposure period.

LD₅₀ - The dose that causes death in 50% of test animals.

N/A – Not Applicable

N/D – Not Determined

N/K – Not Known

N/E – Not Established

NAERG – North American Emergency Response Guidebook

RQ – Reportable Quantity

TPQ – Threshold Planning Quantity

PREPARATION INFORMATION

Prepared by Carl Hauenstein of BEI

Prepared December, 2005

MSDS No. Wet-Flash WS-7100 All Colors

Date of Issue December, 2005