

MATERIAL SAFETY DATA SHEET



SECTION 1 - PRODUCT AND COMPANY INFORMATION

PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

EMERGENCY PHONE NUMBERS (412) 434-4515 (U.S.)
(24 hours/day):

(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
0532-83889090 (China)

PRODUCT SAFETY/MSDS INFORMATION: (412) 492-5555 7:00 a.m. - 4:30 p.m. EST

Product ID: MTK-1 (0808-T0)
PRODUCT NAME: 2K URETHANE
SYNONYMS: None
ISSUE DATE: 05/12/2008
EDITION NO.: 6
CHEMICAL FAMILY: Alkyd

EYE CONTACT:

Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

May be absorbed through the skin.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. Vapor irritates eyes, nose, and throat. Vapor generated at elevated temperatures irritates eyes, nose and throat.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

None Known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact.

The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.

EMERGENCY OVERVIEW:
CAUSES SEVERE EYE IRRITATION. MAY CAUSE MODERATE SKIN IRRITATION. MAY BE ABSORBED THROUGH THE SKIN. VAPOR AND/OR SPRAY MIST MAY BE HARMFUL IF INHALED. VAPOR IRRITATES EYES, NOSE, AND THROAT. VAPOR GENERATED AT ELEVATED TEMPERATURES IRRITATES EYES, NOSE AND THROAT. HARMFUL IF SWALLOWED.

SECTION 2 - COMPOSITION INFORMATION

The following ingredient(s) marked with an "x" are considered hazardous under applicable U.S. OSHA and/or Canadian WHMIS regulations. If no ingredients are listed, then there are no U.S. OSHA and/or Canadian WHMIS hazardous ingredients in this product.

| Material/ CAS Number | Percent | Hazardous | |
|---------------------------------------------|---------|-----------|----------------------------------------------|
| XYLENES 1330-20-7 | 15 - 40 | X | |
| TITANIUM DIOXIDE 13463-67-7 | 10 - 30 | X | |
| METHYL (N-AMYL) KETONE 110-43-0 | 10 - 30 | X | |
| 1-METHOXY-2-PROPYL ACETATE 108-65-6 | 5 - 10 | X | |
| ETHYL BENZENE 100-41-4 | 3 - 7 | X | |
| TOLUENE 108-88-3 | 1 - 5 | X | |
| N-BUTYL ACETATE 123-86-4 | 1 - 5 | X | |
| ALUMINUM POWDER 7429-90-5 | 1 - 5 | X | |
| TITANIUM DIOXIDE 1317-80-2 | 1 - 5 | X | |
| CARBON BLACK 1333-86-4 | 0.5-1.5 | X | |
| METHYL ETHYL KETONE 78-93-3 | 0.1-1.0 | X | |
| 2-METHOXY-1-PROPYL ACETATE 70657-70-4 | 0.1-1.0 | X | |
| (As Nuisance Particulates) 1317-80-2 | * | X | See Sections 8 and 15 for information. |

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

SECTION 4 - FIRST AID MEASURES

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be necessary.

SECTION 5 - FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASHPOINT: 74 Degrees F (23 Degrees C)

FLASHPOINT TEST METHOD:

Pensky-Martens Closed Cup

UEL: Not Available.

LEL: 1.2

AUTOIGNITION TEMPERATURE:

Not Available.

EXTINGUISHING MEDIA:

Use extinguishers appropriate for surrounding fire.

PROTECTION OF FIREFIGHTERS:

Water spray may be ineffective. Water spray may be used to cool closed containers that are exposed to extreme heat. If water is used, fog nozzles are preferable. Firefighters should wear self-contained breathing apparatus and full protective clothing.

SECTION 6 - ACCIDENTAL RELEASE MEASURE

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

None Known.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:

NA

STORAGE:

None Known.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 8 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

PERSONAL PROTECTIVE EQUIPMENT

EYES:

Wear chemical-type splash goggles and full face shield when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN/GLOVES:

Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: nitrile rubber. No specific permeation/degradation testing have been done on protective clothing for this product. Recommendations for skin protection are based on infrequent contact with this product. For frequent contact or total immersion, contact a manufacturer of protective clothing for appropriate chemical impervious equipment. Clean contaminated clothing and shoes.

RESPIRATOR:

Overexposure to vapors may be prevented by ensuring proper ventilation controls, vapor exhaust or fresh air entry. A NIOSH- approved air purifying respirator with the appropriate chemical cartridges or a positive-pressure, air-supplied respirator may also reduce exposure. Read the respirator manufacturer's instructions and literature carefully to determine the type of airborne contaminants against which the respirator is effective, its limitations, and how it is to be properly fitted and used. Provide general dilution or local exhaust ventilation in volume and pattern to keep the concentration of ingredients listed in Section 2 below the lowest suggested exposure limits, the LEL below the stated limit, and to remove decomposition products during welding or flame cutting.

GENERAL HYGIENE - ESTABLISHED EXPOSURE LIMITS

If Threshold Limit Values (TLVs) have been established by ACGIH, OSHA, Ontario or PPG, they will be listed below. These limits are intended for use in the practice of industrial hygiene as guidelines or recommendations in the control of potential workplace health hazards. These limits are not a relative index of toxicity and should not be used by anyone without industrial hygiene training.

| Material/ CAS Number | Percent | ACGIH TLV | ACGIH STEL | OSHA PEL | OSHA STEL |
|--------------------------------------------|---------|---------------------------|--------------------|------------------------|--------------------|
| XYLENES 1330-20-7 | 15 - 40 | 100 ppm | 150 PPM | 100 ppm | 150 ppm |
| TITANIUM DIOXIDE 13463-67-7 | 10 - 30 | 10 mg/m ³ | Not established | 10 mg/m ³ | Not established |
| METHYL (N-AMYL) KETONE 110-43-0 | 10 - 30 | 50 ppm | Not established | 100 ppm | Not established |
| ETHYL BENZENE 100-41-4 | 3 - 7 | 100 ppm | 125 ppm | 100 ppm | 125 ppm |
| TOLUENE 108-88-3 | 1 - 5 | 20 PPM | Not established | 100 ppm | 150 ppm |
| N-BUTYL ACETATE 123-86-4 | 1 - 5 | 150 PPM | 200 ppm | 150 ppm | 200 ppm |
| ALUMINUM POWDER 7429-90-5 | 1 - 5 | 10 MG/m ³ | Not established | R- 5 mg/m ³ | Not established |
| CARBON BLACK 1333-86-4 | 0.5-1.5 | 3.5 mg/m ³ | Not established | 3.5 mg/m ³ | Not established |
| METHYL ETHYL KETONE 78-93-3 | 0.1-1.0 | 200 ppm | 300 ppm | 200 ppm | 300 ppm |
| (As Nuisance Particulates) 1317-80-2 | * | R- 3 MG/m ³ | Not established | R- 5 mg/m ³ | Not established |

| Material/ CAS Number | Percent | Ontario TWA | Ontario STEL | PPG IPEL | PPG STEL |
|--------------------------------------------|---------|---------------------------|----------------------|--------------------|--------------------|
| XYLENES 1330-20-7 | 15 - 40 | 100 ppm | 150 ppm | Not established | Not established |
| TITANIUM DIOXIDE 13463-67-7 | 10 - 30 | 10 MG/m ³ | Not established | Not established | Not established |
| METHYL (N-AMYL) KETONE 110-43-0 | 10 - 30 | 25 ppm | Not established | Not established | Not established |
| 1-METHOXY-2- PROPYL ACETATE 108-65-6 | 5 - 10 | 50 PPM | Not established | 50 PPM | Not established |
| ETHYL BENZENE 100-41-4 | 3 - 7 | 100 PPM | 125 PPM | Not established | Not established |
| TOLUENE 108-88-3 | 1 - 5 | 50 PPM | Not established | Not established | Not established |
| N-BUTYL ACETATE 123-86-4 | 1 - 5 | 150 ppm | 200 ppm | Not established | Not established |
| ALUMINUM POWDER 7429-90-5 | 1 - 5 | 10 MG/m ³ | 10 MG/m ³ | Not established | Not established |
| CARBON BLACK 1333-86-4 | 0.5-1.5 | 3.5 mg/m ³ | Not established | Not established | Not established |
| METHYL ETHYL KETONE 78-93-3 | 0.1-1.0 | 200 ppm | 300 ppm | Not established | Not established |
| (As Nuisance Particulates) 1317-80-2 | * | R- 3 MG/m ³ | Not established | Not established | Not established |

Key: ACGIH=American Conference of Governmental Industrial Hygienists; OSHA=Occupational Safety and Health Administration; TLV=Threshold Limit Value; TWA=Time Weighted Average; PEL=Permissible Exposure Limit (1989 Vacated values); IPEL=Internal Permissible Exposure Limit; Ceiling=TLV or PEL Ceiling Limit; STEL=TLV or PEL Short-Term Exposure Limit; Skin= Skin Absorption Designation. [C- Ceiling Limit; S-Potential Skin Absorption; R-Respirable Dust]
Additional Information Not applicable.

**SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES
(FORMULA VALUES, NOT SALES SPECIFICATIONS)**

| | |
|------------------------------------|----------------|
| SPECIFIC GRAVITY: | .996 |
| PHYSICAL STATE: | Not available. |
| Percent Solids: | 40-68 |
| Percent Volatile by Volume: | 58-65 |

pH: Not available.
ODOR THRESHOLD: Not available.
Vapour Pressure: 6.3 mmHg
ODOR/APPEARANCE: Not available.
VAPOR DENSITY: HEAVIER THAN AIR
Evaporation Rate: 73
BOILING POINT OR RANGE: 172- 401Degrees F
Freezing Point or Range: Not Applicable.
Melting Point or Range(°C): Not Applicable.
Partition coefficient (n-octanol/water): Not Applicable.
WEIGHT PER GALLON: 8.30 (U.S.) / 9.9 (IMPERIAL)

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:

None Known.

CONDITIONS TO AVOID:

None Known.

INCOMPATIBLE MATERIALS:

None Known.

HAZARDOUS POLYMERIZATION:

None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

- None known

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

| Material/ CAS Number | Percent | ORAL LD50 (g/kg) | DERMAL LD50 (g/kg) | INHALATION LC50 (mg/l) |
|--------------------------------------------|---------|---------------------|-----------------------|---------------------------|
| XYLENES 1330-20-7 | 15 - 40 | 4.30 g/kg | 1.70 g/kg | 21.88 mg/l 4 hr |
| TITANIUM DIOXIDE 13463-67-7 | 10 - 30 | 10.00 g/kg | Not Available | Not Available |
| METHYL (N-AMYL) KETONE 110-43-0 | 10 - 30 | 1.60 g/kg | 10.21 g/kg | Not Available |
| 1-METHOXY-2- PROPYL ACETATE 108-65-6 | 5 - 10 | 8.53 g/kg | 5.00 g/kg | Not Available |
| ETHYL BENZENE 100-41-4 | 3 - 7 | 3.50 g/kg | 17.80 g/kg | Not Available |
| TOLUENE 108-88-3 | 1 - 5 | .64 g/kg | 8.39 g/kg | 12.50 mg/l 4 hr |
| N-BUTYL ACETATE 123-86-4 | 1 - 5 | 10.77 g/kg | 17.60 g/kg | Not Available |
| CARBON BLACK 1333-86-4 | 0.5-1.5 | 15.40 g/kg | 3.00 g/kg | Not Available |
| METHYL ETHYL KETONE 78-93-3 | 0.1-1.0 | 2.74 g/kg | 13.00 g/kg | Not Available |

CHRONIC TOXICITY

Ingredient Target Organ/Chronic Effects:

- None known

Mutagenicity Toxicity:

This has not been tested for this product.

Reproductive Toxicity:

This has not been tested for this product.

SUPPLEMENTAL HEALTH INFORMATION:

| Material/ CAS Number | Percent | Ingredient Specific Animal Data: |
|-----------------------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TITANIUM DIOXIDE 13463-67-7 | 10 - 30 | This product contains titanium dioxide. Animals inhaling massive quantities of titanium dioxide dust in a long-term study developed lung tumors. Studies with humans involved in manufacture of this pigment indicate no increased risk of cancer from exposure. |
| ETHYL BENZENE 100-41-4 | 3 - 7 | Ethylbenzene has been reported by NTP to cause cancer in laboratory animals following a chronic (2 year) inhalation exposure. Dose levels of 75, 250 and 750 ppm were used, with evidence of carcinogenicity found in the kidneys of rats and the lung and liver of mice at 750 ppm. The No Observed Effect Level (NOEL) was 75 ppm. The relevance of these findings to humans is uncertain, but appropriate safeguards should be employed to reduce or eliminate inhalation exposure to ethylbenzene. |
| TITANIUM DIOXIDE 1317-80-2 | 1 - 5 | This product contains titanium dioxide. Animals inhaling massive quantities of titanium dioxide dust in a long-term study developed lung tumors. Studies with humans involved in manufacture of this pigment indicate no increased risk of cancer from exposure. |
| CARBON BLACK 1333-86-4 | 0.5-1.5 | This product contains carbon black which has been rated an IARC 2B carcinogen due to animal data. |
| METHYL ETHYL KETONE 78-93-3 | 0.1-1.0 | This product contains methyl ethyl ketone (MEK). MEK has been shown to cause minor embryotoxic/fetotoxic effects in laboratory animals exposed for prolonged periods at high concentrations via inhalation. The potential for human exposure to high concentrations is expected to be low due to the irritating effects of MEK at low concentrations. |
| 2- METHOXY- 1-PROPYL ACETATE 70657-70-4 | 0.1-1.0 | Possible reproductive hazard. An ingredient(s) in this product has adversely affected reproductive tissues and fetal development in test animals. |

SECTION 12 - ECOLOGICAL INFORMATION

POTENTIAL ENVIRONMENTAL EFFECTS

Ecotoxicity:

No Information Available.

ENVIRONMENTAL FATE

Mobility:

No information available.

Biodegradation:

No information available.

Bioaccumulation:

No Information Available.

PHYSICAL/CHEMICAL

Hydrolysis:

No information available.

Photolysis:

No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste material must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers should be recycled by an appropriately licensed reconditioner/salvager or disposed of through a permitted waste management facility. Additional disposal information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

SECTION 14 - TRANSPORTATION INFORMATION

Proper Shipping Name:

NOT AVAILABLE

NOS Technical Name:

NOT AVAILABLE

Hazard Class:

N.A.

Subsidiary Class(es):

N.A.

UN Number:

N.A.

Packing Group:

N.A.

USA - RQ Hazardous Substances: NOT AVAILABLE

USA-RQ Hazardous Substance NOT AVAILABLE
Threshold Ship Weight:
Marine Pollutant Name: NOT AVAILABLE

Key: IARC- International Agency on the Research of Cancer; ACGIH- American Conference of Governmental Industrial Hygienists; NTP- National Toxicology Program *Denotes chemical as NTP Known Carcinogen; + Denotes NTP Possible Carcinogen; OSHA- Occupational Safety and Health Administration.

SECTION 15 - REGULATORY INFORMATION

**INVENTORY STATUS
FEDERAL REGULATIONS
US Regulations**

| Material/ CAS Number | Percent | CERCLA HS - RQ (LBS) | SARA EHS- TPQ (LBS) | SARA 313 |
|----------------------------------------------|---------|-------------------------|------------------------|------------|
| XYLENES 1330-20-7 | 15 - 40 | 100 lbs | Not Listed | Listed |
| TITANIUM DIOXIDE 13463-67-7 | 10 - 30 | Not Listed | Not Listed | Not Listed |
| METHYL (N-AMYL) KETONE 110-43-0 | 10 - 30 | Not Listed | Not Listed | Not Listed |
| 1-METHOXY-2- PROPYL ACETATE 108-65-6 | 5 - 10 | Not Listed | Not Listed | Not Listed |
| ETHYL BENZENE 100-41-4 | 3 - 7 | 1000 lbs | Not Listed | Listed |
| TOLUENE 108-88-3 | 1 - 5 | 1000 lbs | Not Listed | Listed |
| N-BUTYL ACETATE 123-86-4 | 1 - 5 | 5000 lbs | Not Listed | Not Listed |
| ALUMINIUM POWDER 7429-90-5 | 1 - 5 | Not Listed | Not Listed | Listed |
| TITANIUM DIOXIDE 1317-80-2 | 1 - 5 | Not Listed | Not Listed | Not Listed |
| CARBON BLACK 1333-86-4 | 0.5-1.5 | Not Listed | Not Listed | Not Listed |
| METHYL ETHYL KETONE 78-93-3 | 0.1-1.0 | 5000 lbs | Not Listed | Not Listed |
| 2-METHOXY-1- PROPYL ACETATE 70657-70-4 | 0.1-1.0 | Not Listed | Not Listed | Not Listed |

SECTION 16 - OTHER INFORMATION

Hazard Rating Systems
NFPA Rating: 2 30
HMIS Rating: 2*30

Rating System: 0=Minimal, 1=Slight, 2=Moderate, 3=Serious, 4=Severe, *=Chronic Effects.

HMIS=Hazardous Materials Identification System; NFPA=National Fire Protection Association;

Safe handling of this product requires that all of the information on the MSDS be evaluated for specific work environments and conditions of use.

PREPARED BY: Product Safety Department
REASON FOR REVISION: Date. Edition.
Updated MSDS format.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200), the supplier notification requirements of SARA Title III, Section 313 and other applicable right-to-know regulations. Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.
MTK-1 000000 (00467639.002)(06/13/07)
070611, 000, 0808

*** END OF MSDS ***

SARA 311/312

Health (acute): Yes
Health (chronic): Yes
Fire (flammable): Yes
Pressure: No
Reactivity: No

WHMIS HAZARD CLASS: - Class B, Division 6 - Class D, Division 2, Subdivision A - Class D, Division 2, Subdivision B

STATE/PROVINCIAL REGULATIONS

Additional Information

| Material/ CAS Number | Percent | IARC Group 1(Kno wn Human Carc.) | IARC Group 2A (Proba ble Carc.) | IARC 2B (Suspec ted Carc.) | ACGIH Carc. | NTP Known Carc. | OSHA Carc. |
|--------------------------------|---------|-------------------------------------------------|------------------------------------------------|-------------------------------------|----------------|-----------------------|---------------|
| TITANIUM DIOXIDE 13463-67-7 | 10 - 30 | N | N | Y | N | N | N |
| ETHYL BENZENE 100-41-4 | 3 - 7 | N | N | Y | N | N | Y |
| CARBON BLACK 1333-86-4 | 0.5-1.5 | N | N | Y | N | N | Y |