

MATERIAL SAFETY DATA SHEET

COATINGS AND RESINS GROUP

PPG Industries, Inc.

SECTION 1 - CHEMICAL, PRODUCT, AND COMPANY INFORMATION

PRODUCT CODE/IDENTITY: 97-673

REVISION DATE: 02/08/96 (000) 0814

CUSTOMER PART #/NAME: Not applicable

PRODUCT TRADE NAME: METALHIDE 1001 FD LIQUID

CHEMICAL FAMILY: SILICATE

EMERGENCY MEDICAL/SPILL INFO: (304) 843-1300 (U.S.) 91-800-00-214 (MEXICO)

TECHNICAL INFORMATION: 1-800-441-9695

PRODUCT SAFETY/MSDS INFORMATION: 4325 ROSANNA DRIVE, P.O. BOX 9 ALLISON PARK, PA 15101 (412) 492-5555

DATE OF MSDS PREPARATION: 02/15/99

PRIMARY HAZARD WARNING

Flammable. Keep away from heat, sparks, flames, and other sources of ignition. Do not smoke. Extinguish all flames and pilot lights. Turn off stoves, heaters, electrical motors, and other sources of ignition during use and until all vapors/odors are gone. Harmful or fatal if swallowed. May cause moderate skin irritation. Causes severe eye irritation. May be harmful if absorbed through the skin. Vapor and/or spray mist harmful if inhaled. Vapor irritates eyes, nose, and throat.

THIS MATERIAL SAFETY DATA SHEET HAS BEEN PREPARED IN ACCORDANCE WITH 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.

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS				
REF	HAZARDOUS INGREDIENTS	PERCENT	CAS NUMBER	CARCINOGEN*
01	TOLUENE	1 - <5	108-88-3	
02	ETHYL SILICATE POLYMER	20- <30	11099-06-2	
03	2-BUTOXY ETHANOL	10- <20	111-76-2	
04	ALUMINUM SILICATE	10- <20	1332-58-7	
05	TALC	5 - <10	14807-96-6	
06	ETHYL ALCOHOL	1 - <5	64-17-5	
07	ISOPROPYL ALCOHOL	20- <30	67-63-0	
08	SILICA	1 - <5	7631-86-9	
09	ETHYL SILICATE	5 - <10	78-10-4	
10	V.M. AND P. NAPHTHA	5 - <10	8032-32-4	

\* Carcinogens: O=OSHA; A=ACGIH; N=NTP; I=IARC

#### SARA TITLE III & CERCLA CLASSIFICATIONS

REF	SARA 102 RQ (LBS)	SARA 302 TPQ (LBS)	SARA 313	SARA 311/312				
				AC	CH	FL	PR	RE
01	1000	NOT ESTAB	Y	Y	N	Y	N	N
02	NOT ESTAB	NOT ESTAB	N	N	N	Y	N	N
03	NOT ESTAB	NOT ESTAB	Y	Y	Y	Y	N	N
04	NOT ESTAB	NOT ESTAB	N	N	N	N	N	N
05	NOT ESTAB	NOT ESTAB	N	N	N	N	N	N
06	NOT ESTAB	NOT ESTAB	N	Y	N	Y	N	N
07	NOT ESTAB	NOT ESTAB	N	Y	N	Y	N	N
08	NOT ESTAB	NOT ESTAB	N	N	N	N	N	N
09	NOT ESTAB	NOT ESTAB	N	Y	Y	Y	N	N
10	NOT ESTAB	NOT ESTAB	N	Y	N	Y	N	N

SARA 311/312 CATEGORIES FOR THIS PRODUCT: ACUTE= Y, CHRONIC= Y, FLAMMABILITY= Y, PRESSURE= N, REACTIVITY= N

OCCUPATIONAL EXPOSURE LIMITS HAVE BEEN ESTABLISHED FOR THE FOLLOWING MATERIALS:

REF	ACGIH		U.S. OSHA	
	TLV-TWA	TLV-STEL	PEL-TWA	PEL-STEL
01	S- 50 ppm	NOT ESTAB.	100 ppm	150 ppm
02	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.
03	S- 25 ppm	NOT ESTAB.	S- 25 ppm	NOT ESTAB.
04	R- 5 mg/m3	NOT ESTAB.	R- 5 mg/m3	NOT ESTAB.
05	R- 2 mg/m3	NOT ESTAB.	R- 2 mg/m3	NOT ESTAB.
06	1000 ppm	NOT ESTAB.	1000 ppm	NOT ESTAB.
07	400 ppm	500 ppm	400 ppm	500 ppm
08	10 mg/m3	NOT ESTAB.	6 mg/m3	NOT ESTAB.
09	10 ppm	NOT ESTAB.	10 ppm	NOT ESTAB.
10	300 ppm	NOT ESTAB.	300 ppm	400 ppm

[C- Ceiling Limit; S- Potential Skin Absorption; R- Respirable Dust] [NOT ESTAB. = NOT ESTABLISHED = NOT APPLICABLE]

PRODUCT STATUS RELATIVE TO THE U.S. EPA TOXIC SUBSTANCES CONTROL ACT

All chemical substances in this product are listed on the U.S. TSCA Inventory or are otherwise exempt from TSCA Inventory reporting requirements.

#### SECTION 3 - HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE FROM:

INGESTION: Harmful or fatal if swallowed.

EYE CONTACT: Causes severe eye irritation.

SKIN CONTACT: May cause moderate skin irritation. May be harmful if absorbed through the skin.

INHALATION: Vapor and/or spray mist harmful if inhaled. Vapor irritates eyes, nose, and throat. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system

damage.

CHRONIC OVEREXPOSURE: Avoid long-term and repeated contact. Prolonged exposure to an ingredient(s) in this product may cause kidney and/or liver damage. Prolonged inhalation of an ingredient(s) in this product may cause edema of the lungs and/or lung damage. This product contains an ethylene series glycol ether and/or acetate which has been shown to cause adverse effects on the kidneys, liver, blood and/or blood-forming tissue. This product contains toluene. Toluene inhalation in animals (greater than 1500 ppm) and intentional inhalation of toluene-containing products by humans (e.g. glue) has caused adverse fetal development effects. This product contains talc. In a lifetime inhalation study female rats exposed to an elevated respirable concentration (9 times the Permissible Exposure Limit) of cosmetic grade talc developed lung cancer. To date, no U.S. regulatory agency has classified talc as a carcinogen based on this data.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Eye watering, headaches, nausea, dizziness, and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

#### SECTION 4 - FIRST AID MEASURES

INGESTION: If swallowed, give one to two eight ounce glasses of water, but do not induce vomiting. Gently wipe out inside mouth to remove any residual material.

EYE CONTACT: In case of eye contact, remove contact lenses and flush eyes immediately with a gentle stream of luke warm water for at least 15 minutes.

SKIN CONTACT: In case of skin contact, flush immediately with plenty of water for at least 15 minutes followed by washing with soap and water.

INHALATION: If affected by inhalation of vapor or spray mist, remove to fresh air. Apply artificial respiration and other support measures as required.

OTHER: If ingestion, any type of overexposure or symptoms of overexposure occur during or following the use of this product, contact a poison control center, emergency room or physician immediately; have Material Safety Data Sheet information available.

#### SECTION 5 - FIRE FIGHTING MEASURES

FLASHPOINT: 53 Degrees F ( 12 Degrees C) (PENSKEY-MARTENS CLOSED CUP)

FLAMMABLE LIMITS: Lower explosion limit (LEL): 2.3

Upper explosion limit (UEL): Not available

EXTINGUISHING MEDIA: Use National Fire Protection Association (NFPA) Class B

extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA Class IB flammable liquid fires.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Keep this product away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors, static electricity). Invisible vapors can travel to a source of ignition and flash back. Do not smoke while using this product. Keep containers tightly closed when not in use. Closed containers may explode when overheated. Do not apply to hot surfaces. Toxic gases may form when this product comes in contact with extreme heat.

SPECIAL FIRE FIGHTING PROCEDURES: Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat. If water is used, fog nozzles are preferable. Fire-fighters should wear self-contained breathing apparatus and full protective clothing.

#### SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Provide maximum ventilation. Only personnel equipped with proper respiratory, skin, and eye protection should be permitted in the area. Remove all sources of ignition. Take up spilled material with sand, vermiculite, or other noncombustible absorbent material and place in clean, empty containers for disposal. Only the spilled material and the absorbant should be placed in this container.

WASTE DISPOSAL METHOD: Waste material must be disposed of in accordance with federal, state, provincial, and local environmental control regulations. Empty containers should be recycled or disposed of through an approved waste management facility.

#### SECTION 7 - HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS: Do not store above 120 degrees F.(48 degrees C.). Store large quantities in buildings designed and protected for storage of NFPA Class IB flammable liquids.

OTHER PRECAUTIONS: Vapors may collect in low areas. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts. Containers should be grounded when pouring. Avoid free fall of liquids in excess of a few inches.

#### SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT FOR:

EYE PROTECTION: Wear chemical-type splash goggles when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapors.

SKIN PROTECTION: Wear protective clothing to prevent skin contact. Apron and gloves should be constructed of: neoprene rubber or butyl 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.

RESPIRATORY PROTECTION: 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.

OTHER EQUIPMENT: Clean contaminated clothing and shoes.

VENTILATION REQUIREMENTS: 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.

#### SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

[FORMULA VALUES, NOT SALES SPECIFICATIONS]

BOILING RANGE: 172- 384Degrees F

SOLUBILITY IN WATER: 49.7 %

VAPOR PRESSURE: 29.8 mmHg

WEIGHT/GALLON (LBS): 8.97 (U.S.)

VAPOR DENSITY: Heavier than air

pH: Not applicable

% VOLATILE/VOLUME: 74.750

% SOLIDS BY WEIGHT: 42.88

SPECIFIC GRAVITY: 1.076

EVAPORATION RATE(BuOAc=100): 223

ODOR/APPEARANCE: Viscous liquid with an odor characteristic of the solvents listed in Section 2.

#### SECTION 10 - STABILITY AND REACTIVITY

This product is normally stable and will not undergo hazardous reactions.

INCOMPATIBILITY (MATERIALS AND CONDITIONS TO AVOID): Avoid contact with strong alkalis, strong mineral acids, or strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: May produce the following hazardous decomposition products when exposed to extreme heat: carbon monoxide ; carbon dioxide ; oxides of aluminum ; Extreme heat includes, but is not limited to, flame cutting, brazing, and welding.

Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) Ratings:

HMIS Rating		NFPA Rating	
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HEALTH	2*	HEALTH	2
FLAMMABILITY	3	FLAMMABILITY	3
REACTIVITY	0	INSTABILITY	0

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

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

THIS IS THE END OF THE MSDS FOR: 97-673 (00029250.01397-673 )

Manufactured and Supplied by:

PPG INDUSTRIES, EAST POINT

1377 OAKLEIGH DRIVE

EAST POINT, GA 30344

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