

MATERIAL SAFETY DATA SHEET

MSDS Number: T002997

Revision Date: August 2005

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: Plastic Roof Cement, Wet Surface Plastic Roof Cement, Trowel Grade Foundation Coating

LABEL: TAMKO

USE & DESCRIPTION: Roofing cements

CHEMICAL FAMILY: Asphalt mixture

MANUFACTURED FOR:

TAMKO Roofing Products, Inc.
P.O. Box 1404
Joplin, MO 64802-1404

EMERGENCY TELEPHONE NUMBERS;

General Information: 1-904-284-7571 (8 a.m. - 5 p.m. EST)
1-620-429-1800 (8 a.m. - 5 p.m. CST)
1-417-624-6644 (8 a.m. - 5 p.m. CST)
Chemtrec: 1-800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components	Cas No.	% by Wt.	Exposure Limits*				Unit
			OSHA		ACGIH		
			TWA	STEL	TWA	STEL	
Petroleum asphalt	8052-42-4	<60	5 fume	NE	0.5 fume	NE	mg/M ³
Limestone**	1317-65-3	<35	15 total dust 5 resp. dust	NE	10 total dust 5 resp. dust	NE	mg/M ³
No. 2 fuel oil	68476-30-2	NE	NE	NE	NE	NE	-
Clay**	12174-11-7	<20	15 total dust 5 resp. dust	NE	15 total dust 5 resp. dust	NE	mg/M ³
Cellulose fibers	65996-61-4	<8	NE	NE	NE	NE	-
**contains quartz	14808-60-7		0.05	NE	0.05	NE	mg/M ³
crystobalite	14464-46-1		0.05	NE	0.05	NE	mg/M ³
crystalline silica >5%		>0.1					

NE = Not established

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

WARNING!

COMBUSTIBLE

VAPORS, MISTS OR FUMES MAY IRRITATE THE EYES AND RESPIRATORY TRACT

MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION

DIRECT CONTACT MAY CAUSE EYE AND SKIN IRRITATION

HEATING MAY RELEASE TOXIC HYDROGEN SULFIDE GAS (H₂S) WHICH MAY ACCUMULATE IN CONFINED SPACES

ASPIRATION HAZARD IF SWALLOWED

ASPHALT MAY CONTAIN COMPONENTS THAT ARE SKIN CANCER HAZARDS

<u>HMIS Rating:</u> Health - 1 Flammability - 2 Reactivity - 0	<u>NFPA Rating:</u> Health - 2 Flammability - 2 Reactivity - 0
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Potential Health Effects

EYE CONTACT:

May cause eye irritation resulting in tearing, stinging, redness or swelling. Vapors, mists, or fumes may be irritating.

SKIN CONTACT:

May cause skin irritation. Redness, drying and cracking of the skin (dermatitis), may occur following prolonged and repeated contact. In addition, prolonged and repeated exposure to asphalt fumes has been reported to cause an acne-like skin condition, skin discoloration, and may increase sensitivity to the sun (photo sensitization).

SKIN ABSORPTION:

Not expected to be significant with short-term skin contact. However, prolonged or repeated skin contact may result in absorption of hazardous components.

INGESTION:

This product may cause irritation of the digestive tract followed by vomiting and central nervous system depression (see "Inhalation" for symptoms). Avoid aspiration of vomit into the lungs which can cause inflammation or pneumonitis.

INHALATION:

Exposure to fumes, vapors or mists may cause irritation of the nose and throat, and possible signs of central nervous system depression (symptoms may include headache, dizziness, loss of coordination, and

drowsiness). Loss of consciousness can occur in poorly ventilated or confined spaces. Additional signs and symptoms of exposure may include reduced appetite and abnormal fatigue. Use of this product in well-ventilated working conditions is not expected to cause adverse effects.

Hydrogen sulfide (H₂S), an extremely toxic gas, may be emitted from heated asphalt and may accumulate in storage tanks and other confined spaces. At low concentrations (< 1 ppm), H₂S can be irritating to the eyes, nose and throat, and at high concentrations (>500 ppm) can cause rapid unconsciousness and death. The odor of H₂S cannot be used as an indicator of exposure, because the gas causes rapid olfactory fatigue which deadens the sense of smell.

Use this product only under well-ventilated working conditions.

CHRONIC EFFECT/CARCINOGENICITY/SPECIAL TOXIC EFFECTS

This product contains petroleum asphalt. Petroleum asphalt is not listed as a carcinogen by OSHA or NTP. The International Agency for Research on Cancer (IARC) has determined there is inadequate evidence that asphalt alone is carcinogenic to humans, and that there is inadequate evidence for the carcinogenicity of undiluted air-refined asphalts in experimental animals. The National Institute of Occupational Safety and Health (NIOSH) has concluded that at higher temperatures roofing asphalt fumes are a potential occupational carcinogen. If this product is heated or comes in contact with heated material, avoid breathing fumes.

This product may contain small amounts of polycyclic aromatic hydrocarbons (PAH's) which are recognized carcinogens in humans and experimental animals.

This material contains diesel fuel oil, which is considered to be a middle distillate. Some middle distillates have caused skin cancer in experimental animals. In addition liver and kidney damage have been reported following prolonged or repeated exposure. IARC has determined that there is limited evidence for the carcinogenicity of diesel fuel in experimental animals and inadequate evidence for carcinogenicity in humans.

This material contains a hydrocarbon solvent. Reports have associated prolonged or repeated occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as "Solvent or Painters Syndrome". Intentional misuse by deliberately inhaling vapors of this product may be harmful or fatal.

This product contains small amounts of respirable crystalline silica (quartz and cristobalite). IARC and NTP have determined that there is sufficient evidence for the carcinogenicity of respirable crystalline silica in experimental animals and limited evidence for its carcinogenicity in humans.

The physical nature of crystalline silica in this product is not expected to present an inhalation hazard since the material is not a dust and is typically troweled onto a surface and allowed to harden. In addition, the hardened product is not anticipated to present a health hazard unless it is subjected to mechanical forces including grinding, drilling, or other demolition work. In such cases, the silica may be liberated in dust form. Prolonged and repeated exposure to respirable silica-containing dust may have serious lung effects, including silicosis, bronchitis, and lung cancer.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Pre-existing medical conditions that may be aggravated by exposure include disorders of the skin, kidney, liver and respiratory tract including asthma.

4. FIRST AID MEASURES

EYE CONTACT:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the eye lids to ensure thorough rinsing. Get medical attention if irritation persists. Get immediate medical attention if there is direct eye contact with hot material.

SKIN CONTACT:

Clean exposed skin with warm soapy water. Use a waterless hand cleaner without pumice. Do not use solvents or thinners to remove material from skin. Get medical attention if irritation persists or develops.

INGESTION:

If swallowed, do not induce vomiting. Avoid aspiration of vomit into the lungs which can cause inflammation or pneumonitis. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than hips to prevent aspiration. Get immediate medical attention.

INHALATION:

If inhalation occurs, remove person to fresh air. Drink water to clear throat or blow nose to clear. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

NOTES TO PHYSICIAN:

Medical personnel can soften and remove asphalt with petroleum jelly or white mineral oil.

In general, emesis induction is unnecessary in high viscosity products. Also contains diesel fuel that, when aspirated into the lung, may result in chemical pneumonia. If large volumes have been swallowed, gastric lavage should be considered. Patients may be predisposed to pneumonia during convalescence, and should be kept under observation. Inhalation exposure of hydrogen sulfide may also result in pulmonary congestion. Contact a Poison Center for additional treatment information.

5. FIRE FIGHTING MEASURES

FLASH POINT (METHOD):

140°F (COC)

FLAMMABLE LIMITS (% VOLUME IN AIR - SOLVENT COMPONENT):

Lower = 0.7

Upper = 5.0

AUTOIGNITION TEMPERATURE:

490°F

EXTINGUISHING MEDIA:

Dry chemical and carbon dioxide or foam preferred. Avoid use of straight-stream water.

SPECIAL FIRE FIGHTING PROCEDURES:

Combustible. Avoid breathing irritating and potentially toxic fumes, including hydrogen sulfide gas. Firefighters should not enter confined spaces without wearing NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment. Water may be used to cool containers in a fire-exposed area.

UNUSUAL FIRE OR EXPLOSION HAZARDS

When heated above the flashpoint, fumes may burn if ignition source is provided. Petroleum asphalt fumes can explode if emitted in an enclosed environment and supplied with an ignition source. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture.

6. ACCIDENTAL RELEASE MEASURES**PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED**

Combustible. Handling equipment must be grounded to prevent sparking. Remove ignition sources, ventilate area, and avoid inhalation or skin contact by using appropriate precautions outlined in this MSDS (see Section 8). Stop leak and contain spilled material with absorbent material. Collect adsorbed product and clean up materials in appropriate container for proper disposal. Move containers from spill area. For larger spills, keep unnecessary people away. Stay upwind and away from spill. Notify proper authorities. Prevent materials from entering drains, sewers, or waterways. Spills entering surface waters or sewers entering/leading to surface waters that cause a sheen must be reported to the National Response Center 1-800-424-8802.

WASTE DISPOSAL METHODS

Dispose in accordance with applicable Federal, State and Local regulations. Do not burn.

7. HANDLING AND STORAGE**STORAGE TEMPERATURE**

Store away from heat and all ignition sources and open flames in accordance with applicable laws and regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Follow protective controls outlined in this MSDS (see Section 8). Avoid all ignition sources. Storage areas should be ventilated to reduce fire and explosion hazards, and possible overexposure of personnel to fumes and vapors. Keep containers closed when not in use. Do not store near food and beverages or smoking materials.

NOTE: Hydrogen sulfide (H₂S), an extremely toxic gas, may be emitted from heated asphalt and may accumulate in storage tanks and other confined spaces. Empty containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME,

SPARKS, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. For work on tanks, refer to OSHA regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding or other contemplated operations.

To prevent fire or explosion risk from static accumulation and discharge, effectively ground product transfer system in accordance with NFPA standard for petroleum products.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION

Normally not needed in well-ventilated areas. If applicable standards are exceeded or are likely to be exceeded, use a NIOSH/MSHA approved, contaminant-specific, air-purifying respirator. If such concentrations are sufficiently high that this respirator is inadequate, or high enough to cause oxygen deficiency, use a positive pressure self-contained breathing apparatus (SCBA). Follow all applicable respirator use, fitting, and training standards and regulations.

EYE PROTECTION

Chemical safety goggles or face shield needed if spraying or eye contact is possible.

SKIN

chemical resistant gloves, apron or other protective clothing needed to prevent skin contact.

VENTILATION

Use only with adequate ventilation to maintain exposures below appropriate exposure limits. Local exhaust ventilation and/or enclosure of the process may be required. All equipment must be explosion proof.

EXPOSURE GUIDELINES

See section 2 for component materials.

Other Information

Avoid prolonged or repeated skin contact. Remove contaminated clothing; launder or dry clean before reuse. Workers should wash their hands before breaks, meals, smoking and using toilet facilities. Product is readily removed from skin by waterless hand cleaners followed by washing with soap and water. Do not use solvents or thinners to remove material from skin.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR

Black, putty-like material. Fuel oil odor.

BOILING POINT

320°F

Ph

Not applicable

MELTING POINT

Not applicable

SPECIFIC GRAVITY

1.0 - 1.23

VAPOR PRESSURE

2mm @ 70 °F

VAPOR DENSITY (AIR = 1)

5

% VOLATILE, BY VOLUME

<30

SOLUBILITY IN WATER

Negligible

EVAPORATION RATE (BUTYL ACETAT = 1)

<0.1

OTHER PHYSICAL AND CHEMICAL DATA

None

10. STABILITY AND REACTIVITY

STABILITY

Stable

CONDITIONS TO AVOID

Keep from heat, sparks, open flame, and other sources of ignition. Avoid contact with strong oxidizing agents. Prevent vapor from accumulation.

HAZARDOUS POLYMERIZATION

Will not occur

INCOMPATIBILITY (MATERIALS TO AVOID)

Strong acids or bases, oxidizing agents and selected amines

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide, carbon dioxide, ozone, hydrogen sulfide, oxides of sulfur and various hydrocarbons

11. TOXICOLOGICAL INFORMATION

According to a December 2000 NIOSH report (No. 2001-110) titled "Hazard Review - Health Effects of Occupational Exposure to Asphalt," research has identified low levels of polycyclic aromatic hydrocarbons (PAH's) in laboratory generated asphalt fumes. Benzo(a)pyrene, a PAH and known carcinogen, has been identified in field-generated asphalt fumes. Asphalt roofing fume condensates and fractions have been shown to contain chemicals known as PAH's, which have a chemical structure similar to known carcinogens and genotoxins. Laboratory-generated asphalt fumes have been shown to be genotoxic. Laboratory-derived roofing asphalt fume condensates have been shown to be mutagenic, clastogenic, and inhibit intracellular communication in mammalian cells.

Laboratory studies have shown chemical extracts of asphalt fumes to be carcinogenic to the skin of experimental animals following lifetime exposures, and to show positive mutagenicity in screening bioassays. The relevance of these studies to human exposures is not known at this time. Inhalation studies have not been conclusive regarding asphalt's carcinogenic potential; however, adverse lung effects were seen in several species of laboratory animals.

Skin application of undiluted air-refined (oxidized) asphalt to experimental animals has not resulted in skin tumors. The results were weakly positive when the samples were applied in a solvent vehicle.

12. ECOLOGICAL INFORMATION

No specific data on this product. May cause mechanical damage to aquatic organisms. The fuel oil component is expected to volatilize in the environment and to be moderately toxic to both freshwater and marine organisms. The bioaccumulation potential is unknown.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with Federal, State and Local regulations. Prevent materials from entering drains, sewers or waterways. Do not dump on the ground. Do not burn.

14. TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME

Tars, Liquid

DOT HAZARD CLASSIFICATION

Combustible Liquid, non-regulated in non-bulk quantities (less than 119 gallons each). This exception to 49 CFR is cited at 173.150(f)

DOT LABELING REQUIREMENTS

Combustible Liquid

UN/NA NUMBER

UN 1999

PLACARDS

Combustible Liquid

IMDG CODE

Hazardous for vessel transport under the IMDG Code

IMDG SHIPPING NAME

Tars, Liquid

IMDG HAZARD CLASS

3

UN/ID NUMBER

UN 1999

PACKING GROUP NUMBER

PG III

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)

The components in this product are listed on the TSCA Inventory

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA)

None

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA), TITLE III

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES:

None

SECTION 311/312 HAZARD CATEGORIES:

Immediate Health

Delayed Health

Fire Hazard

SECTION 313 REPORTABLE INGREDIENTS:

None

CALIFORNIA PROPOSITION 65

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

16. OTHER INFORMATION

Preparation Date: March 15, 1997

Revised: July 2002; October 2002 for formatting issues; May 2004 Prop 65 Language; August 2004 for DOT Transport Information; August 2005 for changes in emergency contact information.

Replaces: None

Disclaimer of Liability

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