

MATERIAL SAFETY DATA SHEET

MSDS Number: T028100

Revision Date: January 2009

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: TAMKO Sheet Waterproofing Membrane and Related Products
See Attachment 1 for product names.

LABEL: TAMKO

USE & DESCRIPTION: Rolled Roofing

CHEMICAL FAMILY: Mixture

MANUFACTURED FOR:	EMERGENCY TELEPHONE NUMBERS;
TAMKO Building Products, Inc.	General Information: 1-417-624-6644 (8 a.m. - 5 p.m. CST)
P.O. Box 1404	Chemtrec: 1-800-424-9300
Joplin, MO 64802-1404	

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components	Cas No.	% by Wt.	Exposure Limits*				
			OSHA		ACGIH		Unit
			TWA	STEL	TWA	STEL	
Petroleum asphalt	8052-42-4	<40	5 fume	NE	0.5 fume	NE	mg/m ³
Limestone**	1317-65-3	<40	10	NE	10	NE	mg/m ³
Styrene - Butadiene Block Co-Polymer	903-55-8	<15	NE	NE	NE	NE	
**contains: crystalline silica >5% quartz cristobalite	14808-60-7 14464-46-1	>0.1	.Table Z3	NE NE	0.025 0.025	NE NE	mg/m ³ mg/m ³

NE = Not established

* Note: Due to the form of the product, hazardous exposures are not expected to occur. Exposure limits are provided for information purposes only.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

UNDER NORMAL CONDITIONS OF USE, THE PRODUCT IS NOT EXPECTED TO CREATE ANY EMERGENCY HAZARDS.

INHALATION OF PRODUCT DUST MAY CAUSE TEMPORARY UPPER RESPIRATORY IRRITATION

REMOVE AFFECTED INDIVIDUALS TO FRESH AIR.

SKIN IRRITATION MAY BE TREATED BY WASHING AREA WITH SOAP AND WATER.

EYE IRRITATION MAY BE TREATED BY FLUSHING EYES WITH LARGE AMOUNTS OF WATER.

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

EYE CONTACT: If particles enter eye, may cause irritation resulting in tearing, stinging, redness or swelling.

SKIN CONTACT: Primary route of exposure is skin contact. Repeated contact may cause skin irritation due to roughness of product. Redness, drying and cracking of the skin (dermatitis) may occur following prolonged and repeated contact. Prolonged or repeated skin contact could result in absorption of hazardous components.

INGESTION: However, this product may cause irritation of the digestive tract followed by vomiting. Avoid aspiration of vomit into the lungs which can cause inflammation or pneumonitis.

INHALATION: When product is heated, 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 product contains small amounts of respirable crystalline silica (quartz and cristobalite). The International Agency for Research on Cancer (IARC) and the National Toxicology Program (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. Prolonged and repeated exposure to respirable silica-containing dust may have serious lung effects including silicosis, bronchitis and lung cancer.

The physical nature of this product may help limit any inhalation hazard from crystalline silica during application and in its hardened state. However, physical forces such as grinding, drilling and other demolition work on the hardened product may liberate crystalline silica dust.

4. FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of cool water for at least 20 minutes, occasionally lifting the eye lids to ensure thorough rinsing. Remove contacts if in use. Get medical attention if irritation persists.

SKIN CONTACT: Clean any 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 because of danger of aspirating material into lungs resulting in damage and chemical pneumonia. 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: This product is a mechanical irritant and is not expected to produce any chronic health effects from exposure. Treatment should be based on removing the source of irritation with treatment of symptoms as necessary.

5. FIRE FIGHTING MEASURES

FLASH POINT (METHOD): Not applicable

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

Lower= N/A

Upper = N/A

AUTOIGNITION TEMPERATURE: 460 °C / 860 °F

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

SPECIAL FIRE FIGHTING PROCEDURES: Combustible. Avoid breathing fumes. Firefighters should not enter confined spaces without wearing NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

UNUSUAL FIRE OR EXPLOSION HAZARDS: When heated, 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. Burning product will cause thick black smoke.

6. ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED: Pick up large pieces. Do not dry sweep dusts or blow with air in confined area. Do not burn.

WASTE DISPOSAL METHODS: Dispose in accordance with applicable Federal, State, and Local regulations.

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).

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 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: Soft-lensed chemical safety goggles and/or face shield needed if eye contact is possible.

SKIN: Leather or cotton gloves if necessary.

VENTILATION: Use only with adequate ventilation to maintain exposures below appropriate exposure limits.

EXPOSURE GUIDELINES: See section 2 for component materials.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Dark mat. Some products may have granular surface.

BOILING POINT: >700 °F

Ph: Not applicable

MELTING POINT: > 200 °F

SPECIFIC GRAVITY: Variable

VAPOR PRESSURE: Not applicable

VAPOR DENSITY (AIR = 1): Not applicable

% VOLATILE, BY VOLUME: Not applicable

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: Except when application requires heat welding or torch application methods for installation to roof, keep from heat, sparks, open flame, and other sources of ignition. Safety is of major importance when heat welding this product. It is the sole responsibility of the roofing applicator to enforce fire safety precautions and to ensure safety at all times. Torches should be extinguished when not in use and should not be left unattended.

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.

ACUTE AND CHRONIC TOXICITY

GENERAL PRODUCT INFORMATION

Ingestion may cause irritation of throat, stomach and gastrointestinal tract. Inhalation may cause coughing, nose and throat irritation, and sneezing. Higher exposures may cause difficulty breathing, congestion and chest tightness.

B. Component Carcinogenicity

ACGIH, IARC, OSHA, and NTP carcinogen lists have been checked for those components with CAS registry numbers.

12. ECOLOGICAL INFORMATION: No specific data on this product.

13. DISPOSAL CONSIDERATIONS: This product has not been regulated as a hazardous waste by the USEPA. Dispose in accordance with Federal, State and Local regulations. Do not burn.

14. TRANSPORT INFORMATION: This product is not regulated as a hazardous material for DOT transport under 49 CFR. It is also not regulated for vessel transport under the IMDG Code.

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA): Some 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: Lead, PAH, Copper

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: September 2008
- Revised: January 2009 - Addition of a new "related" product to Attachment 1 Product List
- Replaces: None

Disclaimer of Liability

The information and recommendations contained herein are to the best of **TAMKO Building Products, Inc.'s** knowledge and belief, accurate and reliable as of the date issued. **TAMKO Building Products, Inc.** does not warrant or guarantee their accuracy or reliability, and **TAMKO Building Products, Inc.** shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use.

Attachment 1

TAMKO Sheet Waterproofing membrane and related products:

TW-60 Sheet Waterproofing Membrane
TW Flash-N-Wrap 25
TW Flash-N- Wrap 40
TWH-1 Protection Course
TW Underlayment
TW Metal and Tile
TW Moisture Wrap
TW Thru Wall Flashing Membrane
TW Window & Door Flash