Date: February 2017

TAMKO BUILDING PRODUCTS, INC. SAFETY DATA SHEET - T03E2015

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: TAMKO Rolled Roofing that can be Hot Mopped

LABEL: GLASS-BASE

USE & DESCRIPTION: Rolled Asphalt Roofing Products approved for Hot Mopping

CHEMICAL FAMILY: Mixture

MANUFACTURED BY: 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 (24 HOURS)

Joplin, MO 64802-1404 www.TAMKO.com

2. HAZARDS IDENTIFICATION

SIGNAL WORD: Danger

GHS CLASSIFICATION: Carcinogenicity – Category 1A

Skin Irritation – Category 2 Sensitization (Skin) – Category 1B Eye Irritation – Category 2B

Specific Target Organ Toxicity, Repeated Exposure - Category 1

Acute Toxicity (Oral) - Category 4

HAZARD STATEMENTS:

May cause cancer Harmful if swallowed

Causes damage to organs through prolonged or repeated exposure

Causes skin and eye irritation
May cause an allergic skin reaction.

Additional hazard information: Can cause silicosis and other permanent lung damage.

PRECAUTIONARY STATEMENTS:

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves/protective clothing/eye protection/face protection.

Do not eat, drink or smoke when using this product. Wash hands and exposed skin thoroughly after handling.

Response

If on skin: Wash with plenty of water. Get medical advice/attention: If exposed or concerned or you feel unwell, if eye and or skin irritation persists.

Specific treatment: See section 4-First Aid In case of fire: See Section 5. Take off immediately all contaminated clothing and wash before reuse.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Store locked up.

Disposal

Dispose in accordance with Federal, State, and Local regulations. (See section 13 for additional information).

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components Oxidized Asphalt	CAS No. 64742-93-4	% by Weight 30-45
	* * * * * * * * * * * * * * * * * * * *	
Sand*	14808-60-7	30-40
Limestone*	1317-65-3	15-20
Fiberglass Mat**	NE	5-8
**Contains Fiberglass	65997-17-3	4-7
**Contains Urea Formaldehyde Binder	9011-05-6	0.5-1.5
**Contains Formaldehyde	50-00-0	0.01-0.2
*Contains Crystalline Silica (Quartz)	14808-60-7	0.1-1

NE=Not established

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. Get medical attention if irritation persists.

SKIN CONTACT: Clean any exposed skin with warm soapy water if possible. If not, and a waterless hand cleaner is used, it should be 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. If vomiting occurs, keep head lower than hips to avoid aspiration of vomit into the lungs which can cause inflammation or pneumonitis. Call poison control center or get immediate medical attention.

INHALATION: If inhalation of cured product particles, fumes, vapors, or mist 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 and get immediate medical attention.

NOTES TO PHYSICIAN: Treatment should be based on removing the source of irritation with treatment of symptoms as necessary.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Dry chemical, CO², or foam fire extinguisher should be used. Avoid use of straight-stream water.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should not enter confined spaces without wearing a National Institute for Occupational Safety and Health (NIOSH) approved positive pressure self-contained breathing apparatus (SCBA) with full face mask and full protective equipment. Water may be used to cool containers in a fire-exposed area.

Date: February 2017

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 may cause thick black smoke.

SEE SECTION 10 FOR COMBUSTION PRODUCTS

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. 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. PRODUCT SHOULD NOT BE BURNED OR HEATED USING A DIRECT FLAME DEVICE.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Follow recommended work practices and use recommended personal protective clothing and equipment. See Section 8 of this SDS.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Components	CAS No.	CAS No. OSHA		ACGIH		
Raw Products		TWA	STEL	TWA	STEL	Unit
Oxidized Asphalt	64742-93-4	NE	NE	0.5*	NE	mg/m³
Limestone†	1317-65-3	15/5**	NE	10/3**	NE	mg/m³
Fiberglass††	65997-17-3	15/5**	NE	5***	NE	mg/m³
††Contains Formaldehyde	50-00-0	0.75	2	NE	0.3	ppm
†Contains Crystalline Silica Quartz	14808-60-7	0.05	NE	0.025	NE	mg/m³

NE= Not established.

Note: Due to the form of the product, hazardous exposures from this product are not expected to occur. Gloves must be worn when handling and adequate ventilation must be provided during roofing related activities.

RESPIRATORY PROTECTION: Normally not needed in well-ventilated areas. If applicable exposure standards are exceeded or can be exceeded, use a NIOSH approved 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.

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

EYE PROTECTION: Chemical safety goggles with side-shields or face shield must be used if eye contact is possible.

SKIN: Chemical resistant gloves, apron, or other protective clothing needed to prevent skin contact. Must wear leather or heat-resistant gloves, long-sleeve cotton shirt, long pants with no cuffs, and non-skid shoes or boots with 6-inch leather uppers during application and/or tear off activities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Granular surface on asphalt coated mat. Appearance and Odor: **Upper/Lower Flammability or Explosive Limits:** Not Applicable Odor Threshold Not Applicable Not Applicable Vapor Pressure: pH: Not Applicable Vapor Density (Air = 1): Not Applicable **Boiling Point:** >700 °F Specific Gravity/Relative Density: Variable >200 °F Melting Point: Solubility (IES): No data available Not Applicable Initial Boiling Point and Boiling Range: Flash Point: Not Applicable **Autoignition Temperature:** >460°C/860°F Evaporation Rate (Butyl Acetate = 1): < 0.1 Flammability(Solid and Gas): Not Applicable Viscosity: Not Applicable Partition Coefficient: N-Octanol/Water: **Decomposition Temperature:** Not Applicable Not Applicable

10. STABILITY AND REACTIVITY

STABILITY: Stable

REACTIVITY: Reactivity will not occur.

CONDITIONS TO AVOID: Keep from heat, sparks, open flame and other sources of ignition. Avoid contact with strong oxidizing agents.

HAZARDOUS REACTION: Polymerization will not occur.

INCOMPATIBILTY (MATERIALS TO AVOID): Strong acids or bases, oxidizing agents and selected amines.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, carbon dioxide, ozone, hydrogen sulfide, oxides of sulfur and various hydrocarbons.

These combustion products are not expected unless product is heated or burned.

^{*} Asphalt Fume as benzene-soluble inhalable aerosol (Bitumen); TWA for inhalable fraction.

^{**} Total Nuisance Dust/Respirable Dust.

^{***} Inhalable Fraction.

11. TOXICOLOGICAL INFORMATION

EYE – Can cause eye irritation.

SKIN – Can cause skin irritation.

INHALATION – Dust may cause upper respiratory irritation.

INGESTION – May cause harmful effects if swallowed.

THE FOLLOWING COMPONENT DATA IS PROVIDED FOR USER INFORMATION: FORMALDEHYDE

Cancer - This product may contain formaldehyde. IARC and NTP have classified formaldehyde as a human carcinogen based on sufficient evidence that formaldehyde causes nasopharyngeal cancer in humans, limited evidence for cancer of the nasal cavity and paranasal sinuses, and "strong but not sufficient evidence" for leukemia. The finding for leukemia reflects the epidemiologists' finding of strong evidence in human studies coupled with an inability to identify a mechanism for induction of leukemia. The physical nature of this product may help limit any inhalation hazard from formaldehyde during application and in its hardened state.

Date: February 2017

Acute Effects - The major acute toxic effects caused by formaldehyde exposure via inhalation are eye, nose, and throat irritation and effects on the nasal cavity. Other effects seen from exposure to high levels of formaldehyde in humans are coughing, wheezing, chest pains, and bronchitis. Ingestion exposure to formaldehyde in humans has resulted in corrosion of the gastrointestinal tract and inflammation and ulceration of the mouth, esophagus, and stomach.

Chronic Effects - In addition to cancer, exposure to formaldehyde by inhalation in humans has been associated with respiratory symptoms and eye, nose, and throat irritation. Repeated contact with liquid solutions of formaldehyde has resulted in skin irritation and allergic contact dermatitis in humans.

SILICA

Cancer - This product contains crystalline silica (quartz). IARC has determined that crystalline silica inhaled in the form of quartz from occupational sources is carcinogenic to humans (Group 1). IARC concluded that there was sufficient evidence in humans and animals for the carcinogenicity of inhaled crystalline silica in the form of quartz from occupational sources. The NTP has classified silica as known to be a human carcinogen. 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 sawing, grinding, drilling and other demolition work on this product may liberate crystalline silica dust.

Acute Effects - Exposure to silica dust can cause irritation of the eyes, nose and throat. Exposure to high concentrations can also cause Accelerated Silicosis causing progressive shortness of breath, fever, coughing, and weight loss.

Chronic Effects – In addition to cancer, breathing of silica over a period of time can cause damage to the lung tissue or silicosis after long exposure at low concentrations causing shortness of breath, fever, coughing, and weight loss. Prolonged and repeated exposure to respirable silica- containing dust may cause autoimmune disease, kidney disease, tuberculosis, and nonmalignant respiratory disease, and bronchitis.

OXIDIZED ASPHALT

Cancer - This product contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing activities has been classified by the International Agency for Research on Cancer (IARC) as "probably carcinogenic to humans" (Group 2A). IARC based this classification on its finding that available data from studies in humans points to an association between exposures to oxidized asphalts during roofing and cancers of the lung and upper aerodigestive tract. IARC also determined that there was sufficient evidence of carcinogenicity of extracts and condensates of oxidized asphalts in experimental animals. The oxidized asphalt in this product may contain small amounts of Polycyclic Aromatic Hydrocarbons (PAH's) some of which are recognized carcinogens in humans or experimental animals. Oxidized asphalt may also cause irritation of the respiratory tract. The physical nature of this product may help limit any inhalation hazard from oxidized asphalt during application in its hardened state. However, physical forces such as grinding, drilling and other demolition work on this product may liberate dust containing oxidized asphalt. Burning or heating of the product may cause fumes, vapors or mists.

Acute Effects - Inhalation of dust may cause nose, throat, respiratory tract, and mucous membrane irritation. Eye contact may cause severe irritation, redness, tearing, and blurred vision. If ingested, may cause mouth, throat and gastrointestinal tract irritation and upset with possible nausea, vomiting and diarrhea. See Section 8 for exposure controls.

Chronic Effects - In addition to cancer, prolonged or repeated skin contact may result in dryness and irritation of the skin. Long term skin exposure to asphalt can increase sensitivity to the sun, and may cause discoloration. Oxidized asphalt may also cause irritation of the upper respiratory tract.

12. ECOLOGICAL INFORMATION

Ecotoxicity – No data available
Persistence and degradability – No data available
Bioaccumulative potential – No data available
Mobility in Soil – No data available
Other adverse effects (GHG, Ozone) - No data available

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.

14. TRANSPORT INFORMATION

This product is not regulated as a hazardous material for transport under 49 CFR or for vessel transport under the IMDG Code.

DOT PROPER SHIPPING NAME: Not Applicable **DOT HAZARD CLASSIFICATION:** Not Applicable DOT LABELING REQUIREMENTS: Not Applicable

UN/NA NUMBER: Not Applicable PACKING GROUP: Not Applicable IMDG CODE: Not Applicable

IMDG SHIPPING NAME: Not Applicable IMDG HAZARD CLASS: Not Applicable UN/ID NUMBER: Not Applicable

PACKING GROUP NUMBER: Not Applicable

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: This material contains the following chemicals which are subject to the reporting requirements of Section

Date: February 2017

313 of SARA Title III and 40 CFR Part 373.

Chemical Name	CAS Number	Concentration (% by Wt.)
Formaldehyde	50-00-0	<0.1

California Proposition 65: WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov/product.

16. OTHER INFORMATION

HMIS Rating:	NFPA Rating:
Health - * 1	Health - 1
Flammability - 1	Flammability - 1
Reactivity - 0	Reactivity - 0

Preparation Date: April 2015 Revision Date: February 2017

Revisions: Updated typos and % by weight in Section 3

Corrected typo in Section 7

Updated table footnotes and changed OSHA TWA for crystalline silica guartz in Section 8

Updated California Proposition 65 warning language in Section 15

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 quarantee 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 his or herself that they are suitable and complete for the user's particular use.