



MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) FLEX-A-FILL (REG. TM)9075R 50#
CAS NUMBER MIXTURE
MSDS NUMBER 7019
PRODUCT CODE ND
SYNONYM(S) Polymer Modified Asphalt Joint Sealer
MANUFACTURER / SUPPLIER Koch Materials Company
P.O. Box 2338
Wichita, KS
67201

TELEPHONE NUMBERS - 24 HOUR ASSISTANCE

EMERGENCY ASSISTANCE

call Chemtrec: 800-424-9300
Reference Koch Subsidiary:
Koch Materials Company

TELEPHONE NUMBERS - GENERAL ASSISTANCE

Product Information
call Manufacturer: 316-828-8399 (Option 1)

For technical assistance regarding this product, contact your local Koch Materials Company representative.

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
PETROLEUM ASPHALT	8052-42-4	55 - 85 %	Asphalt Fumes: 0.5 mg/m ³ 8-Hour TWA (ACGIH)
FILLER	MIXTURE	0 - 35 %	Amorphous Silica: 10 mg/m ³ 8-Hour TWA (ACGIH) 80 mg/m ³ divided by % SiO ₂ 8-Hour TWA (OSHA)
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	0 - 30 %	Respirable Particulate: 0.1 mg/m ³ 8-Hour TWA (OSHA) 0.1 mg/m ³ 8-Hour TWA (ACGIH) Total Particulate Dust: 0.3 mg/m ³ 8-Hour TWA (OSHA)
PETROLEUM DISTILLATE	PROPRIETARY	0 - 20 %	ND
POLYMER MODIFIER	PROPRIETARY	< 12 %	ND
ANTI-STRIP	PROPRIETARY	0 - 1 %	ND

ND = No Data NA = Not Applicable

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Material Id 7019

Trade Name FLEX-A-FILL (REG. TM)9075R 50#

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
HYDROGEN SULFIDE	7783-06-4	< 1 %	10 ppm 8-Hour TWA (ACGIH) 15 ppm 15-Min STEL (ACGIH)

*Values do not reflect absolute minimums and maximums; these values are typical which may vary from time to time.

The specific identities of some of the components of this product are being withheld as trade secrets. However, all pertinent hazards are addressed in this MSDS.

Asphalt products can contain hydrogen sulfide, because it is naturally occurring in crude oil from which asphalt is derived. Hydrogen sulfide can also be present as a by-product of asphalt processing.

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HEALTH HAZARDS

WARNING!

MAY RELEASE TOXIC HYDROGEN SULFIDE VAPORS - DO NOT RELY ON ODOR FOR WARNING

FUMES FROM HEATED MATERIAL MAY BE IRRITATING AND HAZARDOUS

MAY BE IRRITATING TO THE SKIN, EYES AND RESPIRATORY TRACT

MAY CAUSE ALLERGIC SKIN REACTION

HEATED MATERIAL MAY CAUSE THERMAL BURNS

ASPIRATION HAZARD IF SWALLOWED-CAN ENTER LUNGS AND CAUSE DAMAGE

* * SEE TOXICOLOGICAL INFORMATION SECTION FOR MORE INFORMATION

FLAMMABILITY HAZARDS

UNDEFINED (FLASH POINT > 400 F)

PER OSHA GUIDELINES, 29 CFR 1910.1200(c)

SEE SECTION 5 (FIRE FIGHTING MEASURES) FOR MORE INFORMATION

REACTIVITY HAZARDS

STABLE

POTENTIAL HEALTH EFFECTS, SKIN

May cause skin irritation. Repeated or prolonged skin contact may cause reddening, itching and inflammation.

May cause photoirritation in some individuals.

Contact with heated material may cause thermal burns.

Absorption from prolonged or repeated skin contact may cause systemic toxicity.

POTENTIAL HEALTH EFFECTS, EYE

MODERATELY TO SEVERELY IRRITATING. Direct contact may cause irritation, redness, tearing and blurred vision. Exposure to vapors, fumes or mists may cause irritation. Prolonged or repeated exposure may cause irritation and conjunctivitis.

Contact with heated material may cause thermal burns, destruction of eye tissue and possible permanent injury or blindness.

POTENTIAL HEALTH EFFECTS, INHALATION

Fumes or vapors from the heated material may be irritating to the respiratory tract. Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure.

May release hydrogen sulfide gas which is highly toxic. Hydrogen sulfide can cause respiratory paralysis and death, depending on the concentration and duration of exposure. Do not rely on ability to smell vapors, since odor fatigue rapidly occurs. Effects of overexposure include irritation of the nose and throat, nausea, vomiting, diarrhea, abdominal pain and signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination and fatigue), irregular heartbeats, pulmonary edema, weakness and convulsions. See Storage & Handling (Section 7) for more information.

Overexposure to this material may cause systemic damage including target organ effects listed under "Toxicological Information" (Section 11).

Other specific symptoms of exposure are listed under "Toxicological Information" (Section 11).

POTENTIAL HEALTH EFFECTS, INGESTION

PRACTICALLY NON-TOXIC. Ingestion of large amounts may cause gastrointestinal disturbances. May cause irritation of the mouth, throat and gastrointestinal tract. Symptoms may include salivation, pain, nausea, vomiting and diarrhea.

Aspiration into lungs may cause chemical pneumonia and lung damage.

4 FIRST AID MEASURES

SKIN

For hot material, immerse or flush skin with large amounts of the coldest water possible. Cover with clean cotton sheeting or gauze. Remove clothing if not sticking to skin. DO NOT try to remove solidified material from the skin as the damaged flesh can be easily torn. DO NOT try to dissolve with solvents or thinners. GET IMMEDIATE MEDICAL ATTENTION.

For cold material, immediately wash skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation persists.

Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Discard contaminated leather goods.

EYE

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. GET IMMEDIATE MEDICAL ATTENTION.

Burns due to contact with heated material require immediate medical attention.

INHALATION

Safely remove the victim from exposure. DO NOT ATTEMPT TO RESCUE WITHOUT ADEQUATE PROTECTIVE GEAR AND PROPER TRAINING. Remove to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure airway is clear and give oxygen. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

INGESTION

Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs keep head below hips to prevent aspiration and monitor for breathing difficulty. Gastric lavage should be performed only by qualified medical personnel. GET IMMEDIATE MEDICAL ATTENTION.

Keep affected person warm and at rest.

NOTES TO PHYSICIAN

Gastric lavage may be indicated if ingested. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

Hydrogen sulfide is primarily a respiratory toxin inhibiting the cytochrome oxidase system; it is probably more potent than HCN. The lifetime of sulfide in oxygenated blood is short and sulfmethemoglobin is rapidly detoxified by red blood cells and the liver. If nitrites have been used for detoxification, check methemoglobin levels. Follow fluid and electrolyte balance carefully since metabolic acidosis may occur from increased anaerobic metabolism. Watch for pulmonary edema and aspiration pneumonia during convalescence.

For skin contact with hot asphalt material, do not peel the solidified material from the skin, or use solvents such as gasoline, kerosene, or paint thinner to remove. Cooled asphalt may adhere so tenaciously to the skin that attempted removal may cause severe distress to the patient. Covering the affected area using commercially available preparations containing the emulsifying agent polysorbate (Tween 80), or an antibiotic cream in a polysorbate base is the most effective method to dissolve the solidified asphalt. Asphalt can also be slowly dissolved with vegetable oil, baby oil or mineral oil.

5 FIRE FIGHTING MEASURES

HAZARDOUS COMBUSTION PRODUCTS

Combustion may produce CO, NOx, SOx and reactive hydrocarbons. Combustion may produce hydrogen sulfide, toxic and irritating vapors.

BASIC FIRE FIGHTING PROCEDURES

Material will burn in a fire. Use water spray, dry chemical, alcohol foam, all purpose AFFF or carbon dioxide to extinguish fire. Exercise extreme care when using water spray on asphalt tank fires. When water is mixed with hot asphalt, steam may rapidly develop resulting in violent asphalt foaming and possible tank eruptions from increased pressure. Evacuate area and fight fire from a safe distance.

Use water spray to cool adjacent structures and to protect personnel. Shut off source of flow if possible. Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire.

Firefighters must wear MSHA/NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

UNUSUAL FIRE & EXPLOSION HAZARDS

Fires involving this product may release carbon monoxide, carbon dioxide, reactive hydrocarbons and hydrogen sulfide.

Flash Point	> 400 F (> 204 C) PENSKEY-MARTENS CLOSED CUP
Autoignition Temperature	ND
Flammability Limits in Air, Lower, % by Volume	ND
Flammability Limits in Air, Upper, % by Volume	ND

6 ACCIDENTAL RELEASE MEASURES

EMERGENCY ACTION

Isolate spill area and keep unnecessary people away. See Exposure Control/Personal Protection (Section 8).

ENVIRONMENTAL PRECAUTIONS

If product is released to the environment, take immediate steps to stop and contain release. Caution should be exercised regarding personnel safety and exposure to the released product. Notify local authorities and the National Response Center, if required.

SPILL OR LEAK PROCEDURE

Stop leak when safe to do so. For spills on land, dike ahead of spill to contain. Let material solidify and scrape up for disposal. To reclaim, mix with gravel, dirt or rock prior to solidifying. For spills on water, contain spill with booms and shovel into containers for disposal. If material sinks, consult with local, state and regional authorities for approved clean up procedures.

See Exposure Controls/Personal Protection (Section 8).

7 HANDLING & STORAGE

HANDLING

Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools. Do not cut, grind, drill, weld or reuse containers unless adequate precautions are taken against these hazards.

Do not eat, drink or smoke in areas of use or storage.

Do not add or allow water to mix with hot asphalt. When water is mixed with hot asphalt, steam will develop rapidly. This could result in violent asphalt foaming or rupture of the storage vessel.

STORAGE

Store in a dry, isolated, and well-ventilated area away from sources of ignition and incompatibles. Avoid contact with strong oxidizers.

Empty containers may contain product residue. Do not reuse without adequate precautions.

Hydrogen sulfide can build up in the head space of storage vessels containing hot asphalt products. Use appropriate respiratory protection to prevent exposure. See Exposure Controls/Personal Protection (Section 8).

When entering a storage vessel that has previously contained any type of asphalt product, it is recommended that the atmosphere be monitored for the presence of hydrogen sulfide. See Composition Information (Section 2) for exposure limits.

Hydrogen Sulfide can react with the iron in an asphalt storage tank to form iron sulfide. Iron Sulfide is pyrophoric. When exposed to air, iron sulfide is capable of igniting spontaneously.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Ventilation and other forms of engineering controls are the preferred means for controlling exposures.

Consult NIOSH (National Institute for Occupational Safety and Health) for more information on guidelines for engineering controls for asphalt pavers.

EYE PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Wear safety goggles. A face shield is recommended for transfer operations or where splashing can occur. Have eye washing facilities readily available where eye contact can occur.

SKIN PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Use appropriate chemical protective gloves when handling at room temperature. Use gloves that protect against thermal burns when handling at high temperatures. At a minimum, wear long-sleeved cotton shirt buttoned at the collar and full-length cotton pants. Synthetic fibers tend to melt and adhere to the skin when heated. Do not fold back or roll up cuffs.

Use good personal hygiene.

RESPIRATORY PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

A NIOSH/MSHA approved air purifying respirator with an appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. The use of air purifying respirators is not recommended where hydrogen sulfide levels may exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

9 PHYSICAL & CHEMICAL PROPERTIES

ODOR AND APPEARANCE

DARK BROWN TO BLACK VISCOUS ELASTIC LIQUID WITH ASPHALT ODOR
OR

DARK BROWN TO BLACK VISCOUS ELASTIC LIQUID WITH PUNGENT ODOR

Boiling Point	> 600 F (> 315 C)
Specific Gravity	1.1 - 1.2
Melting Point	NA
Percent Volatile	ND
Vapor Pressure	ND
Vapor Density	ND
Bulk Density	ND
Solubility in Water	INSOLUBLE
Octanol/Water Partn	ND
Volatile Organic	ND
Pour Point	NA
pH Value	ND
Freezing Point	NA
Viscosity	< 6000 cP AT 370 F (188 C)
Evaporation Rate	ND
Molecular Formula	NA
Molecular Weight	ND
Chemical Family	NA
Odor Threshold	ND

10 STABILITY & REACTIVITY

STABILITY/INCOMPATIBILITY

Incompatible with oxidizing agents. See precautions under Handling & Storage (Section 7).

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Combustion may produce CO, NO_x, SO_x and reactive hydrocarbons. Combustion may produce hydrogen sulfide, toxic and irritating vapors.

11 TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA

Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: kidney, skin, central nervous and respiratory systems.

Exposure to components of this material may cause the following specific symptoms, depending on the concentration and duration of exposure: fatigue, reduced appetite and respiratory effects.

Irritating and toxic hydrogen sulfide gas may be found in confined vapor space. **WARNING** - "rotten egg" odor of hydrogen sulfide is not a reliable indicator for warning of exposure since odor fatigue readily occurs. Odor sensation lost immediately at concentrations greater than 20 ppm. Avoid exposures to hydrogen sulfide gases. Hydrogen sulfide causes rapid death due to metabolic asphyxiation. Case reports suggest that toxic amounts can enter the body through a punctured eardrum, even while wearing some types of respiratory protective equipment.

Some of the components of this product are hazardous in the dust form. These components include iron compounds and aluminum compounds. However, because of the physical nature of this product, dust generation is not expected, so the health effects associated with the dusts are unlikely to occur.

This material contains iron compounds. Ingestion of iron or iron salts can result in vomiting and gastrointestinal bleeding resulting in shock and death depending on the amount ingested. Excessive exposure can cause damage to body organs including the liver, kidney, gastrointestinal system and blood.

This material contains aluminum compounds. Aluminum salts can cause irritation of the eye, skin, respiratory tract and gastrointestinal system. Excessive exposures via inhalation or ingestion have been associated with effects on the kidney, blood elements, bone, respiratory and nervous systems.

CARCINOGENICITY

This material contains petroleum asphalt. IARC has determined that there is inadequate evidence that undiluted, air-refined asphalt is carcinogenic to experimental animals, and there is only limited evidence that undiluted steam-refined and cracking-residue asphalts are carcinogenic to animals. Additionally, IARC has concluded that there is inadequate evidence that asphalts alone are carcinogenic to humans.

In solution, solvent extracts of asphalts can produce skin cancer in animals following prolonged and repeated contact. IARC has concluded that there is sufficient evidence for the carcinogenicity of asphalt extracts in experimental animals. Therefore, "cutbacks" (asphalts that are diluted, dissolved, or liquefied in hydrocarbon solvents), may also be implicated as potentially carcinogenic. While brief or intermittent skin contact with this type of product is not expected to cause harm, those workers who do not practice good personal hygiene and who are exposed repeatedly via skin contact may be at risk. It is important that all precautionary measures outlined in this MSDS be followed.

Asphalt fumes from heated material may cause eye, respiratory tract and skin irritation, as well as nausea and headaches. These fumes may cause dermatitis and acne-like lesions as well as mild keratoses on prolonged and repeated exposure. Condensed asphalt fumes, which have been generated under laboratory conditions and which are chemically different from those found during typical asphalt operations, have been reported to cause bacterial mutations as well as cause skin tumors in animals following repeated, lifetime skin contact without washing. However, inhalation of asphalt fumes by laboratory animals, during controlled studies, did not produce lung cancer. Additionally, human studies to date have not established a link between lung cancer and asphalt fume exposure.

This product may contain trace amounts of polynuclear aromatic hydrocarbons (PAHs) as naturally occurring constituents of crude oils from which asphalt is derived. Some PAHs have been shown to be carcinogenic after prolonged or repeated skin contact in laboratory animals.

Some of the components of this product are hazardous in the dust form. These components include crystalline silica. However, because of the physical nature of this product, dust generation is not expected, so the health effects associated with the dusts are unlikely to occur.

This material contains crystalline silica. IARC has determined that there is sufficient evidence for the carcinogenicity of crystalline silica in experimental animals. IARC has determined that there is sufficient evidence for the carcinogenicity of crystalline silica in humans.

PRE-EXISTING CONDITIONS AGGRAVATED BY EXPOSURE

Pre-existing medical conditions which may be aggravated by exposure include disorders of the skin and respiratory system.

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

ND

13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

This product, as supplied, when discarded or disposed of, will not be a hazardous waste according to Federal regulations. Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine, at the time of disposal, whether the material is a hazardous waste subject to RCRA.

The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Disposal can occur only in properly permitted facilities. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state and local regulations.

14 TRANSPORT INFORMATION

BILL OF LADING - BULK (U. S. DOT)

NA

U. S. Department of Transportation (DOT) Requirements

General Transportation Information for Bulk Shipments

Proper Shipping Name	Non-Regulated, Polymer Modified Joint Sealer		
Hazard Class	NA	UN/NA Code	NA
Packaging Group	NA		
Labels Required	NA		
Placards Required	NA		
Reportable Quantity	NA		

General Transportation Information for Non-Bulk Shipments

Proper Shipping Name	Non-Regulated, Polymer Modified Joint Sealer		
Hazard Class	NA	UN/NA Code	NA
Packaging Group	NA		
Labels Required	NA		
Placards Required	NA		
Reportable Quantity	NA		

15 REGULATORY INFORMATION

FEDERAL REGULATIONS

All known major components of this product are listed on the TSCA Inventory.

A release of this product, as supplied, is exempt from reporting under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) by the petroleum exclusion. Releases may be reportable to the National Response Center (800-424-8802) under the Clean Water Act, 33 U.S.C. 1321(b)(3) and (5). Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Failure to report may result in substantial civil and criminal penalties.

This product does not contain toxic chemicals (in excess of the applicable de minimis concentration) that are subject to the annual toxic chemical release reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313 (40 CFR 372).

There may be specific regulations at the local, regional or state/provincial level that pertain to this product.

STATE REGULATIONS

WARNING: This product contains a chemical known to the State of California to cause cancer.

SARA TITLE III RATINGS

Immediate Hazard:	X	Delayed Hazard:	X	Fire Hazard:	-	Pressure Hazard:	-
Reactivity Hazard:	-						

NFPA RATINGS

Health	0	Flammability	1	Reactivity	0	Special Hazards	-
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HMIS RATINGS * - Indicates chronic health hazard

Health	-	Flammability	-	Reactivity	-
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16 OTHER INFORMATION

DISCLAIMER

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, MSDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

Current Revision Date 11-Sep-1998

Replaces Sheet Dated 31-Dec-1997

Completed By Safety & Emergency Response, Koch Industries, Inc.