Asphalt and Pitch Roofing Meeting Kit



What’s At Stake

AN ASPHALT MEDICAL ALERT

Roofing asphalt fumes and vapours can cause headaches, dizziness, nausea and lung irritation. They may also irritate the skin, eyes, nose and throat. These effects are usually mild and temporary. Although building occupants may experience discomfort, the fumes and vapours generally do not pose a health hazard. Symptoms should resolve within hours after exposure to the odour has ended.

What’s the Danger

HAZARDS OF WORKING WITH ASPHALT

Fire/explosion: There’s a significant fire hazard associated with asphalt due to the high temperatures that it’s stored and handled at, and because it’s composed largely of crude oil. Because of these high temperatures, it could ignite – especially if it comes into contact with a spark, open flame, or another source of ignition.

Asphalt fumes exposure: Asphalt is typically heated between 150-200 degrees F to liquify it, allowing workers to pour and spread it. However, the process of heating asphalt releases harmful fumes. Hot asphalt can emit H2S (hydrogen sulfide gas) which can cause lung irritation, suffocation, or even death.

The most common effects of inhalation include throat and eye irritation as well as nasal and lung irritation. This can cause a sore throat or cough. Inhalation can also lead to headaches, dizziness, and fatigue. Inhalation of certain asphalt mixes can lead to liver, kidney, and nervous system damage.

Long-term asphalt fumes health effects include bronchitis, emphysema, and worse; asphalt inhalation has also been linked to some cancers.

Bodily exposure (skin burns and chemical absorption): Since asphalt is stored and handled at high temperatures, it’s important to keep the substance off the skin. Failure to do so can lead to serious burns, rashes, and other skin defects. It can also potentially increase the risk of skin cancer.

RECOMMENDED SAFETY PROCEDURES FOR ASPHALT HANDLING AND FOR PITCH

When working with asphalt and pitch in buckets, make sure you:

- Do not fill the bucket closer than four inches from the top.
- Do not fill any other type of container over 75% of its capacity.
- Never carry buckets of hot asphalt or pitch on ladders.
- Carry only one bucket at a time if you work on a roof with a slope of 6:12 or steeper.

When you work with kettles or tankers that are used to heat the asphalt or pitch:

- Keep an extension handle of sufficient length near the kettle at all times to allow safe closing of a stuck spigot.
- Securely fasten pumper pipelines to the roof; do not support them with access ladders.
- Make use of hoists or hand lines between the kettle/tanker and the roof.
- Remember to keep a pathway free of debris between the kettle and the hoist or hand line.
- Use kettles with a fluid level indicator (dipstick) that determine the liquid level without opening the lid.
- Never carry portable butane lighters above a kettle on the roof. They can fall into the pot and explode.
- Vents are required for kettles. Use vents at least 100 square inches for kettles up to 200-gallon capacity. Use vents at least 200 square inches for all larger capacity kettles.
- When you move a kettle on a public street or roadway, drain it to at least 5 inches below the splash rail to prevent spills.

Asphalt Worker PPE – What Workers Need to Wear

Gloves: Gloves should be thermally insulated to ensure that no asphalt comes into contact with the skin and risks burning or irritating it – cloth or leather gloves should be avoided.

Coveralls: Coveralls get their name because they “cover all.” And this is important for ensuring that no asphalt makes skin contact anywhere on the body.

Face shield or safety glasses: Safety glasses do a nice job of protecting the eyes, but to ensure the entire face is protected, consider a full-face shield.

Respirator: Asphalt fumes and respiratory protection is critical. A full-face mask respirator with vapor cartridges works best. Dust masks do not provide adequate protection, but a respirator will.

ASPHALT PAVING SAFETY PROTOCOL

1. Know your job site: Any job site orientation should include a review of where to find certain emergency safety devices. Employees must know where the fire extinguisher is located in the event of asphalt ignition. They should also know where the eyewash station is in the event it is needed.
2. Understand the MSDS / SDS: The Safety Data Sheet, helps inform workers of the ingredients of a product as well as the potential health hazards associated with it. Why? First, asphalt is blended with a solvent in order

for it to take on more of a liquid form. Second, the solvent(s) that it is blended with often range in toxicity.

3. Engineering Controls: Mix the asphalt in an enclosed space. Try not to mix it in an open kettle. This potentially exposes workers to fumes and increases the risk of a fire. If asphalt is mixed in an open kettle, consider improving onsite ventilation or scheduling the process when fewer workers are on-site. Automating the process of open kettle mixing is another consideration. Mechanical devices can achieve this without exposing a worker to fume inhalation.
4. Don’t eat or drink anything around asphalt: Have a designated area well away from where asphalt is being mixed and applied so that anything workers consume is unlikely to be contaminated with asphalt or asphalt by products. Smoking should never be done around asphalt.
5. Cut asphalt with more health-friendly aggregates: If possible, use asphalt products with a lower toxicity or that are safer to handle. For example, rapidly curing asphalts use solvents to help them cure faster.

FINAL WORD

Asphalt shingle roofs remain the most popular roofing material on American homes today. Workers need to be aware of the signs and symptoms of asphalt inhalation or exposure so they can seek proper treatment before more severe problems develop.