# Working With Asphalt Meeting Kit

## WHAT IS ASPHALT?

Asphalt is a black, sticky material that comes from crude oil. It is used in paving, roofing, waterproofing, and some glue. Asphalt is often confused with coal tar or pitch. Coal tar and pitch come from coal, not oil. Asphalt is a solid or semisolid substance. It is mixed with solvents to make it more liquid, and easier to work with. Some of the solvents used to mix with asphalt are naphtha, toluene, and xylene. These solvents are hazardous substances, flammable, very smelly, and increase the potential hazards of working with asphalt.

## HEALTH DANGERS

Breathing asphalt fumes is the most common method of exposure. The acute (immediate) health effects of asphalt fumes include headache, skin rash, fatigue, eye, and throat irritation, and cough. Exposure to asphalt fumes (and the solvents in them) over long periods of time (chronic exposure) may cause lung and stomach cancer. Long-term contact of asphalt with your skin can cause pigment change, which is made worse by sunlight exposure.

### Asphalt Poisoning Symptoms

- Loss of vision
- Severe pain in the throat
- Severe pain or burning in the nose, eyes, ears, lips, or tongue
- Collapse
- Low blood pressure that develops rapidly (shock)
- Breathing difficulty (from breathing in asphalt)
- Throat swelling (which may also cause breathing difficulty)
- Burns

- Holes (ulcers) in the skin or tissues under the skin
- Blockage in the intestines
- Blood in the stool
- Burns of the esophagus
- Severe abdominal pain
- Vomiting (may contain blood)

# HOW TO KEEP SAFE

**1. Look Out for Others**. Always use machine guards when you are working on or repairing equipment. If you need to step away from the machine, lock it out and tag it out.

Let a supervisor know if a co-worker does something unsafe. If you see co-workers doing something unsafe, let them know. If they continue to work unsafely, talk to your supervisor.

**2. Keep Track of Each Other:** Have a sign-in/sign-out sheet that shows plant operators and managers who is on the site and when. If someone hasn't been seen or heard from in a while, contact him or her by radio to make sure all is well.

Carry handheld radios or install hands-free intercoms in multiple locations on the plant.

**3. Communicate with Passion:** Use a plant start-up siren and/or start-up lights to signal the commencement of production. This gives plant personnel, truck drivers, and others time to move away to a safe place prior to the plant starting.

**4. Employ All the Senses.:** Look around you before you do anything at an asphalt plant. Look where you are walking, standing or climbing. Be aware of your surroundings. There is constant motion of machinery and equipment at a plant site. Watch out for trucks and loaders; they generally have the right of way.

**5. Always use PPE:** With most surfaces at the plant storing heat, personnel should wear the long sleeves, thick gloves, safety glasses, etc.

**6. The Plan:** If the unthinkable occurs, a well-practiced emergency

plan can keep a situation from going from bad to worse. Make sure personnel know the phone numbers for police, ambulance, hospital, etc. Add evacuation routes and an assembly area to that plan. You want to meet in an agreed-upon area where all personnel can be counted, and accounted for, if a serious accident takes place.

## BEST SAFE ASPHALT WORK PRACTICES

The flammable nature of asphalt vapors, and the quick, violent fires which develop lead to the following safety practices:

- When heating asphalt in a transport tank, distributor, or tack truck, position the tank broadside to the wind.
- Always be sure that the heating flues are covered by at least six inches of asphalt before lighting the burners
- Never spray asphalt while the burners are running
- Keep all sources of ignition away from manholes and tank vents
- Keep vent pipes clear and open
- Do not operate or weld on a tank which is leaking
- Do not eat, smoke, or drink where asphalt is handled.
- Wash hands carefully before eating, drinking, smoking, or using the toilet.
- If you feel ill while working with asphalt, let your supervisor know right away.

## CONTROL METHODOLOGY OF ASPHALT

**Substitution**—If possible, substitute a less hazardous form of asphalt in your construction project.

**Isolation**—isolating asphalt operations will minimize worker exposure.

**Enclosure**—enclose the mixing and stirring operations. Stirring asphalt in an open kettle exposes you to fumes, solvent vapors, and possible burns.

# FINAL WORD

The safety and security of workers in asphalt projects and tasks is inextricably linked to workers knowing and understanding the perils and dangers in dealing with asphalt during these operations. It only takes a worker to be careless once for tragedy to strike.