

## Asphalt Safety

Asphalt is a petroleum product used extensively in some construction work. When asphalt is heated for use, it releases fumes that can be harmful to workers.

There are two main types of asphalt: straight-run asphalt (asphalt cement) and air-blown asphalt (oxidized asphalt). Straight-run asphalt is used for paving roads, airport runways, and parking lots. Because of its solid to semi-solid nature, it must first be cut with a solvent to bring it to a more liquid state. This is known as cut-back asphalt.



Over a half-million workers are exposed to fumes from asphalt. Health effects from exposure to asphalt fumes can include headache, skin rash, sensitization, fatigue, reduced appetite, throat and eye irritation, cough, and skin cancer.

There are currently no specific Occupational Safety and Health Administration (OSHA) standards or directives for asphalt fumes. However, exposures to various chemical components of asphalt fumes are addressed in specific standards for general industry, such as the use of personal protective equipment (PPE).

OSHA requires employers to use personal protective equipment (PPE) to reduce employee exposure to hazards when engineering and administrative controls are not feasible or effective. Employers are required to identify all exposures to hazards in the workplace and determine if PPE is required to protect their workers.

PPE is necessary to protect workers from asphalt burns and irritation. Many of the solvents used to cut asphalt can be absorbed through unprotected skin into the bloodstream. The solvents can then travel throughout the body causing damage to different organs.

The **types of PPE recommended** for use when filling pouring pots and handling or pouring heated asphalt include:

- an 8-inch (200-millimeter) minimum-sized face shield;
- loose clothing in good condition with collars closed and cuffs buttoned at the wrist;
- thermally-insulated gloves with gauntlets that extend up the arm and are worn loosely for easy removal if covered with hot asphalt;
- safety boots with laced tops at least 6 inches (150 millimeters) high;

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- pants without cuffs that extend over the tops of the boots;
- barrier creams and lotions to protect against skin irritation caused by protective clothing; and
- long-handled sprayers with flexible hoses when hand-applying emulsified asphalts for tack coats or cut-back asphalts for prime coats.

**First Aid:** Whenever a person is injured from exposure to asphalt fumes, cold asphalt, or hot asphalt, get medical attention immediately. To prevent the possibility of future medical complications, have a physician examine the employee even if the injury does not appear to be serious. Use the following procedures:

### Asphalt Fumes

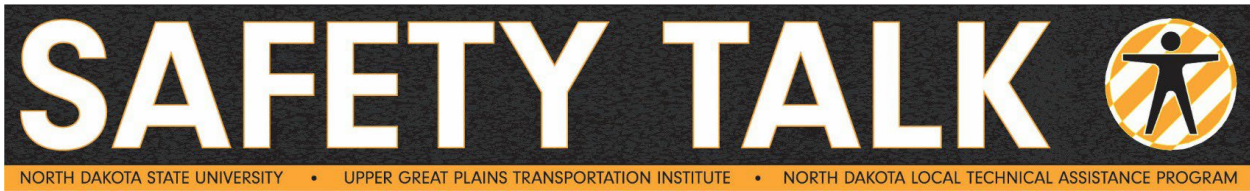
- move the employee to fresh air;
- if breathing is difficult, call 911;
- have all injured employees examined by a physician

Cold Asphalt	Hot Asphalt
remove cold asphalt from the skin, preferably with waterless hand cleaner or warm mineral oil heated to 110 °F (43 °C)	apply cold water or an ice pack to asphalt skin burns
wash skin thoroughly with soap and water	if burns cover more than 10 percent of body (about equal to the surface of one arm or half of a leg) apply lukewarm water to alleviate pain and to remove the heat in the asphalt as rapidly as possible
remove contaminated clothing and shower employee at once	do not remove asphalt from the skin
flush out contaminants from eyes for at least five minutes with water, lifting upper and lower eyelids occasionally	do not bandage the burn
have the injured employee examined by a physician	have the injured employee examined by a physician



Safety Talks are published by NDLTAP in cooperation with the National Local Technical Assistance Association and participating partner organizations.





## Safety Talk Sign-in Sheet Topic Asphalt Safety

Agency: \_\_\_\_\_

Crew: \_\_\_\_\_

Supervisor/Talk Leader: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name

Signature

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