

# CREOSOTE

## General Description

Creosote, is a distillate of coal tar and consists of liquid and solid polycyclic aromatic hydrocarbons, other heterocyclic aromatic substances and some tar acids and bases. Creosote is considered a CEPA-toxic preservative.

Creosote is the oldest and one of the most effective industrial preservatives for protecting wood from deterioration and decay caused by fungi, insects and marine organisms. It is virtually insoluble in water.

Creosote has been applied to a large variety of wood products for more than 150 years. It is used primarily for railway ties (where it is often blended with a heavy petroleum oil), utility poles, marine piling and timbers and highway construction.

Creosote is derived from coal tar, which is formed during high temperature carbonization of bituminous coal. This carbonization process takes place during the making of coke by the steel industry. The coal tar is then distilled to produce creosote and other products.

Many factors affect the character and composition of creosote, including the characteristics of the coal, which is used, the method of coal tar distillation and the temperature range in which the creosote fractions are collected. Over 150 chemical compounds have been identified.

Common sense dictates that the creosote preservative must be handled with care. Studies conducted on human workers exposed to creosote indicate there is no increased incidence of cancer or cancer-related deaths. Further studies corroborate that exposure to creosote fumes is not associated with any observed significant adverse health effects.

Pressure-injected creosote does not exude or move out of the wood in a liquid form to any appreciable extent. According to several studies, this is true not only for wood in land use but also for properly treated piling and timbers in the marine environment. Furthermore,

creosote in small concentrations is biodegradable. Tests indicate that creosote is low in toxicity to birds and moderately toxic to fish.

Initially, creosote treated wood is dark brown to black in colour and weathers to a light brown. It has distinct odors, which diminish with age. Because creosote is oily, the treated wood is somewhat water repellent. This improves the wood's dimensional stability and reduces checking and splitting. Creosote treated wood is also more resistant to mechanical wear, which is of vital importance for such applications as railway ties and bridge decking.

## Applications

Creosote is registered in Canada with PMRA for the following wood uses:

- railroad ties
- utility poles
- marine pilings
- outdoor construction materials



## Creosote Consumer Safety Information

Exposure to creosote may present certain hazards. Follow the safe practices listed below when working with creosote pressure-treated wood. Specific work practices may vary depending on the environment and safety requirements of individual jobs.

### Use

Wood pressure treated with creosote should not be used where it will be in frequent or prolonged contact with bare skin (for example, chairs and other outdoor furniture) unless an effective sealer has been applied.

Creosote treated wood should not be used in residential interiors. Creosote treated wood in interiors of industrial buildings should be used only for industrial building components which are in ground contact and are subject to decay or insect infestation and wood block flooring. For such uses, two coats of an appropriate sealer must be applied. Sealers may be applied at the installation site.

Wood treated with creosote should not be used in the interiors of farm buildings where there may be direct contact with domestic animals or livestock, which may crib (bite) or lick the wood.

Do not use creosote treated wood for furrowing or brooding facilities.

Do not use treated wood under circumstances where the preservative may become a component of food or animal feed. Examples of such use would be structures or containers for storing silage or food.

Do not use treated wood for cutting boards or counter-tops.

Only treated wood that is visibly clean and free of surface residues should be used for patios, decks and walkways.

Do not use treated wood for construction of those portions of beehives, which may come into contact with the honey.

Creosote treated wood should not be used where it may come into direct or indirect contact with public drinking water, except for uses involving incidental contact such as docks and bridges.

Do not use creosote treated wood where it may come into direct or indirect contact with drinking water for domestic animals or livestock, except for uses involving incidental contact such as docks and bridges.



## Handling

Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing and machining treated wood, wear a dust mask. Whenever possible, these operations should be performed outdoors to avoid indoor accumulation of airborne sawdust from treated wood.

Avoid frequent or prolonged skin contact with creosote treated wood; when handling the treated wood, wear long sleeved shirts and long pants and use gloves impervious to the chemicals (for example, gloves that are vinyl coated).

When power sawing and machining, wear goggles to protect eyes from flying particles.

After working with the wood, and before eating, drinking, and use of tobacco products, wash exposed areas thoroughly.

If oily preservatives or sawdust accumulate on clothes, launder before reuse. Wash work clothes separately from other household clothing.

## Disposal

Dispose of treated wood by ordinary trash collection or burial. Treated wood should not be burned in open fires or in stoves, fireplaces or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or industrial use (e.g. construction sites) may be burned only in commercial or industrial incinerators or boilers in accordance with provincial and federal regulations.

