



Product Safety Summary Sheet

Pentachlorophenol

Pentachlorophenol is an organochlorine compound exclusively used for the treatment and preservation of industrial wood products. Although pentachlorophenol's primary use is for the treatment of wooden utility poles, it is also applied commercially in the treatment of wooden fence posts, piers, docks, and ties.

Chemical Identity

Chemical formula: C_6HCl_5O

Other names: PCP, penta

Uses and Benefits

Pentachlorophenol-treated wood generally has a useful life up to five times longer than that of untreated wood. For example, a wooden utility pole treated with pentachlorophenol has a useful lifespan of approximately 35-40 years vs. approximately seven years for an untreated wooden utility pole. As one of the most common wood preservatives used to treat and preserve wooden utility poles, penta has been used commercially for more than 60 years. This long history of use has demonstrated penta's effectiveness as a wood preservative.

Physical and Chemical Properties

- White organic-like solid with needle-like crystals when in technical block form.
- Dark amber liquid when dissolved in a Ready-To-Use (RTU) formula.
- Combustible liquid and vapor

Health Effects

- May be fatal if inhaled or absorbed through skin
- Harmful if swallowed
- Causes skin, eye and respiratory tract irritation

Can cause cardiovascular effects



Environmental Risks

Penta contains traces of various chlorinated dioxins, furans and other microcontaminants. Microcontaminants are tested on a batch basis and must not exceed strict federal regulatory limits. KMG submits reports to the EPA to certify findings regarding microcontaminant levels in its manufactured penta products. KMG continues to explore options for lowering the microcontaminant content while maintaining penta's efficacy as an industrial wood preservative.

Pressure-impregnated penta does not evaporate or bleed significantly. Low concentrations (<100 ppm) of penta are biodegradable and susceptible to photodecomposition in sunlight.

Exposure Potential and Risk Management Measures

Industrial Use: Applicators of pentachlorophenol must be trained and licensed. Manufacturers and applicators must follow specific rules and regulations governing the safe storage, handling and use of penta in the treatment of industrial wood products.

Consumer Use: Pentachlorophenol is a restricted use chemical and therefore cannot be self-applied. Purchased wood that is treated with pentachlorophenol must be accompanied by consumer information sheets outlining the safe use and handling of the wood material.

Regulatory Information

Penta today has no registered residential uses. Its commercial uses include: utility poles, fences, shingles, walkways, building components, piers, docks, and laminated beams.

Effective December 31, 2004, all non-pressure and non-thermal treatment uses (i.e., spray uses) of penta had been deleted from registrants' labels. As a result, only pressure and thermal treatments of pentachlorophenol are currently allowed.

In 2008 the EPA completed its re-registration eligibility decisions (RED) for pentachlorophenol. In general, the EPA determined that penta use is beneficial to society and was eligible for re-registration, provided the mitigation measures and associated label changes identified in the REDs are implemented and required data are submitted. In its risk assessments, the EPA identified risks of



concern associated with occupational exposure (i.e., treatment plant workers) and ecological exposure.

Conclusion

Through decades of use, penta has been established as a highly effective preservative for the treatment of industrial wood products. The accepted uses of penta-treated wood, such as wooden utility poles and transmission cross-arms, are governed by commodity standards of the American Wood Protection Association.

The production and use of penta is regulated by the EPA through the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is an approved preservative in the American Wood Protection Association (AWPA) standards for poles, crossarms, posts, land and fresh water pilings, ties and timbers with the primary use being the treatment of utility poles.

Due to their projected 40-year lifespan, penta-treated poles support forest sustainability as pole trees are typically grown for 40 years before they are harvested. When removed from service, penta-treated poles can be reused and recycled or burned for energy in combustion units and industrial boilers.

Penta is a product that can protect wood against boring insects, rot, decay, climate and extreme weather. It can be handled safely by following industry and company guidelines.

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