

Hazards associated with Copper Chromium Arsenic (CCA) and/or Class C Preservative (Creosote) treated wooden cable drums

This bulletin serves to highlight the hazards associated with the use of cable wooden drums that are treated with CCA or Creosote in accordance with SANS 10005:2006, particularly to protect drums from biological attack

In accordance with clause 5 of SANS 10005:2006, Ed 7.1- The preservative treatment of timber, the hazard conditions under which timber is normally exposed to attack by timber destroying agents are classified as follows:

Hazard class H6 = timber in sea water

Hazard class H5 = timber in fresh water

Hazard class H4 = timber in ground contact

Hazard class H3 = exterior timber above ground

Hazard class H2 = interior timber above ground

Hazard class H0 = single-purpose insecticides, specific end uses

In the case of wooden cable drums, Hazard class 6, 5, 4 and 3 could normally apply. For these hazard classes, SANS 10005:2006, Table 3 stipulates preservative types CCA plus Creosote for H6 and CCA or Creosote for H5, H4 & H3. In accordance with SANS 10005:2006, clause 9.6, safety handling information for the above treated drums must be provided. Some of these hazards are listed below:

Hazards associated with CCA and/or Creosote treated wooden cable drums:

1. During combustion, CCA treated wood may release toxic fumes and smoke including volatile arsenic compounds. Do not use for cooking or heating fuel. Do not burn as a means of disposal.
2. Combustion residues and ash may contain residues of copper, chromium and arsenic and should be considered to be hazardous.
3. Product dusts may cause irritation to the eyes, skin and respiratory tract. Product contains a known sensitizing agent.
4. Product dust may cause irritation to the skin. Mechanical rubbing may increase skin irritation. Product may cause dermatitis or allergic skin reactions in sensitized individuals.
5. Wood dusts, when a drum is sawed for instance, may form explosive mixtures with air. Full protective clothing and self-contained breathing apparatus should be worn for firefighting. Extinguish fire with water, fog, foam, carbon dioxide or dry chemical.
6. Dispose of ash and burnt waste only in an approved landfill site or waste facility in accordance with local and government regulations.
7. The preservative is toxic to fish and wildlife but the treated timber is not considered to be a hazard as the preservative becomes fixed onto the timber. Dispose of redundant pieces and waste properly through approved waste services.
8. CCA treated timber should not be used in situations in such as bee hives, fish ponds and animal enclosures where the animals are known to gnaw on and consume the treated wood.
9. Use of CCA treated wood in garden beds and plant boxes may result in a slight increase in levels of copper, chromium and arsenic in soil contacting the treated wood and in plant roots. These effects are unlikely to result in unacceptable levels in edible plants. This can be mitigated or eliminated by using plastic membrane between the treated wood and soil or ensuring at least 10 cm separation between treated wood and plants.

Toxicological Information of CCA

Wood dusts may be irritating to the eyes, skin and respiratory tract. Prolonged or repeated inhalation of wood dust may cause respiratory irritation, recurrent bronchitis and prolonged colds. Depending on the species of wood, recurrent exposure may cause allergic skin and respiratory reactions in some individuals.

Chromium III, the naturally occurring form, has low toxicity while chromium VI is highly toxic due to strong oxidation characteristics and permeability through biological membranes. Excessive exposure to chromium VI can produce allergic skin sensitization reactions and severe nasal irritation, scarring and damage to the lungs, liver and kidney damage.

Exposure to arsenic compounds results in hyperpigmentation of the skin and hyperkeratosis of the skin as well as dermatitis of both primary irritation and sensitization types. Acute inhalation has resulted in irritation of the upper respiratory tract, even leading to ulceration and perforation of the nasal septum. Symptoms of acute arsenic poisoning include burning lips, constriction of the throat, abdominal pain, severe nausea, projectile vomiting, and profuse diarrhoea. Other toxic effects on the liver, blood-forming organs, central and peripheral nervous systems and cardiovascular system may appear.

First Aid Measures for exposure to CCA or Class C (Creosote) treated wooden cable drums

1.1 Eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes. Seek immediate medical attention.

1.2 Skin contact:

For skin contact, wash immediately with soap and water. Continue flushing skin with water for 15 minutes. If irritation persists, get medical attention. If wood splinters are injected under the skin, get medical attention immediately.

1.3 Ingestion:

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting.

1.4 Inhalation:

If dusts are inhaled, remove person to fresh air. If symptoms persist, get medical attention.

1.5 Notes to Physician:

Respiratory ailments and pre-existing skin conditions may be aggravated by exposure to product dust.

General Fire Hazards of CCA or Class C (Creosote) treated wooden cable drums

Wood is flammable, and wood dusts may form explosive mixtures with air in the presence of an ignition source.

1.6 Hazardous Combustion Products:

Hazardous decomposition products include irritating and toxic vapours and gases of arsenic compounds, chromium oxides and copper compounds.

1.7 Extinguishing Media:

Use water to wet down wood and to reduce the likelihood of ignition or dispersion of dust into the air.

1.8 Fire Fighting Equipment/Instructions:

Firefighters should wear full protective clothing including self-contained breathing apparatus.

Handling Procedures for CCA or Class C (Creosote) treated wooden cable drums

Do not generate airborne dusts in the presence of an ignition source when sawing, cutting or grinding wood. Wash hands after handling and before eating. Avoid contact of product or product dusts with skin and eyes. Do not breathe product dusts. Do not eat, drink or smoke when handling this material or in areas where dusts of this product are present. Do not burn drums or batten planks.

Personal Protective Equipment

1.9 Eyes/Face

Wear safety glasses with side shields when handling, cutting, sanding or grinding this material. Use a face shield during processes that may generate excessive dusts and splinters.

1.10 Skin:

Wear puncture resistant work gloves, such as leather.

1.11 Respiratory:

Not normally needed. Use a dust mask for particulate concentrations exceeding the Occupational Exposure Limit.

1.12 Personal Protective Equipment:

Laundry contaminated clothing after use. Eye wash fountain and emergency showers are recommended.

Chemical Stability & Reactivity Information of CCA

1.13 Stability:

This is a stable material.

Keep away from excessive heat, sparks and open flame. Keep away from incompatible materials.

1.14 Incompatibility:

This product may react with strong acids, strong bases, reducing agents, halogens, metals and water-reactive materials.

1.15 Hazardous Decomposition:

Hazardous decomposition products include irritating and toxic vapours and gases of arsenic compounds, chromium oxides and copper compounds.

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