

LEAD IN PAINT FACT SHEET

What is paint?

Paint is any liquid, liquefiable, or mastic composition which, after application to a substrate in a thin layer, is converted to a solid film. It is most commonly used to protect or color and/or provide texture to objects.

What is lead paint?

Lead paint is any paint that relies on lead compounds for drying or for its colour. Lead is added to paint to speed up drying, increase durability, maintain a fresh appearance, and resist moisture that causes corrosion.

Is lead still used in paints?

Yes. While developed countries have implemented standards to regulate the use of lead in paint, much of the paint currently sold for residential use in most developing countries contains high levels of lead. A recent study examining lead concentrations in the paint of African countries such as South Africa, Tanzania, Nigeria and Senegal among others demonstrates that, 68 % of the new paints tested exceed the U.S. standard of 90 ppm (effective August 2009). Published studies conducted in India, China, and other countries have had similar findings.

Is there lead paint in Uganda?

Yes. According to the recent research conducted by Uganda Network on Toxic Free Malaria Control (UNETMAC), in collaboration with the International POPs Elimination Network (IPEN) and Occupational Knowledge International (OK International), several popular local brands of paint contain significant concentrations of lead, ranging from 2200-7700ppm. These levels are more than 24 times the legal limit in the U.S.

Where is lead paint used in Uganda?

Given the wide availability of lead paint on the Ugandan market, it is evidently clear that it is being applied on the interior and exterior of homes, schools, and commercial buildings. However, lead paint is also used on steel structures (e.g. bridges), vehicles, playground equipments, farm machinery, and consumer products such as children's toys.

Where else is lead found?

Lead can also be found in other items. Most lead is used in batteries for vehicles and for back-up power. These are significant hazards whenever lead is melted down in manufacturing or recycling lead batteries. In addition, toys, plastics, some imported crayons, calcium supplements, hair dyes, pottery, certain cosmetics, leaded crystal and some folk remedies have high lead content. Even ammunition and fishing weights are made from lead.

What is lead poisoning?

Lead poisoning is the presence of too much lead in the body. Lead is a highly toxic metal that may cause a range of health problems. Even very low level exposures can impact young children. When lead is absorbed into the body, it can cause damage to the brain and other vital organs, like the kidneys, nerves and blood. Lead may also cause behavioral problems, learning disabilities, seizures and in extreme cases, death.

According to the World Health Organization and the U.S. Centre for Disease Control (CDC), there is no known safe level of lead in the body. Repeated studies have demonstrated that even very low exposure levels impact children's school performance and intellectual capacity. In adults, blood lead levels in this range are also associated with hypertension and are a significant contributor to heart disease and stroke. At higher exposure levels, kidney disease and damage to the gastrointestinal, nervous, and reproductive systems occurs.

Who gets lead poisoning?

Children are at the greatest risk but workers exposed to lead on

the job are also susceptible. Children get most of their exposure from normal hand to mouth activity in environments with lead contaminated dust and soil. Children are at the higher risk of lead poisoning than adults because their small bodies absorb more lead than adult bodies do, and the lead harms them more because their bodies are still growing. Children also are more likely to absorb lead dust because they place hands and other objects in their mouths. Lead poisoning also can be passed from a pregnant mother to her unborn child.

Workers can get lead in their body by breathing in lead dust, especially during renovations that disturb painted surfaces. Adults with certain occupations that expose them to lead can get lead poisoning as well. These jobs include painting, battery manufacturing and recycling, construction work, auto repair and lead smelting. Workers in these occupations can unknowingly carry lead dust home from the workplace and expose their families. People who remodel their own homes, or have a home that has been recently remodeled, have a higher risk of being lead poisoned. The body carries the lead in the blood to soft tissues and bones, where it can be stored for many years

Why is lead toxic?

Lead can disrupt numerous crucial bodily functions. It is also able to displace a series of other metals from doing their normal job in the body - most significantly, calcium, iron and zinc. A particular problem is that lead displaces the zinc from the enzyme delta-aminolaevulinic dehydratase, which is crucial for the biosynthesis of heme, the iron-binding part of the haemoglobin molecule that carries oxygen around the blood. This results in cells around the body being short of oxygen, causing a cascade of associated problems.

What are the symptoms of lead poisoning?

Lead poisoning has no obvious signs, and most children do not report any abnormal symptoms. Children with high levels of lead in their bodies might report stomachaches or exhibit decreased appetite, hyperactivity, sleeping problems or irritability. Because these symptoms appear to mimic other childhood problems, lead poisoning is sometimes mistaken for a cold or the flu. Other symptoms range from vomiting to madness to death.

How can I tell if my child has lead poisoning?

The only way to diagnose lead poisoning is by having a blood test. A doctor or nurse takes blood from a child's finger or arm. They send the blood sample to a laboratory to find out how much lead it contains.

How is lead poisoning treated?

There is no effective treatment for lead poisoning. However, in extreme cases, doctors may use chelation drugs to treat children or adults with very high blood lead levels. These medications are generally given in the hospital either through intravenous or intramuscular injections or by mouth. The medicine attaches to the lead in the blood and causes it to come out of the body in the urine. If the lead level is very high, more than one treatment session may be necessary to lower the amount of lead in the blood. Even with treatment, lead takes a very long time to be removed from the body and some of its effects may be permanent. Children with elevated blood levels will need to live in a safe environment and be monitored repeatedly for many years.

Are there regulations on lead paint?

Most countries do not have regulatory limitations on lead content in paint or only have voluntary standards in place. In countries with regulations, the permissible lead levels are often inconsistent with a range of excluded applications. Standards between countries vary greatly and some regulations reference soluble lead and others total lead (percent by weight).

In Uganda for instance, there is no specific law to deal with lead in paint neither is there any specific law to deal with heavy metals. There is therefore a clear and immediate need for regulation to address this gap. Specifically, there should be legislation or a national regulatory framework calling for a ban on the manufacture, sale, export and import of lead paint by a date certain.

Are there substitutes for lead in paint?

Yes, substitutes for lead-based pigments have been available for over one hundred years and titanium dioxide and zinc oxide are commonly used pigments for this purpose. In most countries where lead paint is commonly sold for residential use, competing brands that have eliminated the use of lead pigment and other lead additives are often available within the same price range.

How can lead exposure and absorption be prevented?

Lead poisoning can be prevented by taking simple precautions around the house. These methods include the following steps:

- Cleaning up paint chips and peeling paint by wet washing;
- Washing floors, counter tops and window sills weekly with an all-purpose detergent or a detergent specifically formulated to remove lead dust;
- Feeding children a healthy diet that includes recommended amounts of iron, calcium, and Vitamin C, and has healthy (lower) amounts of fat;
- Offering children healthy meals and snacks, such as fruit so they will not put non-food items into their mouths;
- Using proper safety measures when renovating or remodeling your house, like not using electric sanders or open flame torches to remove paint;
- Assuring that children and pregnant women do not enter a work area until renovations are complete and the area has been thoroughly cleaned;
- Washing a child's hands, mouth and face, and toys often;
- Removing shoes when coming indoors so that lead dust is not tracked inside;
- Laundering work clothes separately from other clothes; and
- Not serving or storing food in ceramic ware or other lead containing pots and pans.

What has the international community done to eliminate lead in paint?

The International Conference on Chemicals Management at its Second Session (ICCM-2, Geneva, 11-15 May 2009) endorsed a proposal from Toxics Link, an IPEN participating organization from India, to establish a global partnership to promote the phase-out of the use of lead in paint as an important contribution to the implementation of paragraph 57 of the Plan of Implementation of the World Summit on Sustainable Development (WSSD) and to the Strategic Approach to International Chemicals Management (SAICM).

The overall goal of the partnership, called the Global Alliance to Eliminate Lead in Paints (GAELP), is to prevent children's exposure to lead via paints containing lead and to minimize occupational exposures to lead in paint. The broad objective is to phase out the manufacture and sale of paints containing lead and eventually to eliminate the risks from such paint. The United Nations Environment Programme (UNEP) and the World Health Organization (WHO) within their respective mandates and available resources are serving as the Secretariat of the Global Alliance.

For more readings, please visit;

www.ipen.org/ipenweb/work/lead/lead-map.html
www.okinternational.org/lead-paint
www.who.int/ipcs/features/pb_alliance/en/index.html
www.unetmac.org