

California Air Resources Board Coatings Program

Background

The Air Resources Board's Coatings Program provides suggested control measures that act as model rules to assist the districts in the rule development process. The Coatings Program also develops airborne toxic control measures to reduce the public health impacts from toxics in coatings. However, the development, adoption and enforcement of rules and regulations that control these emissions are primarily the responsibility of the local air districts.

- What Are Organic Coatings? Organic coatings are materials that are applied to protect or beautify a surface. Coatings include, but are not limited to: paints, varnishes, stains, industrial maintenance coatings and they can be applied to stationary and/or mobile sources. When applied, the solvents in organic coatings can evaporate into the atmosphere and contribute to volatile organic compound and airborne toxic emissions.
- What Are Inorganic Coatings? Inorganic coatings are generally metallic materials that can provide corrosion resistance, wear resistance, and functional capabilities, such as thermal insulation. Inorganic coatings can also generate toxic emissions when metal particles are released during the spraying process.

Architectural Coatings Program



Background

Architectural Coatings are coatings applied to stationary sources and their appurtenances, to portable buildings, to pavements, or to curbs. Appurtenances are accessories to an architectural structure, including, but not limited to: hand-railings, cabinets, bathroom and kitchen fixtures, fences, decks, rain gutters and downspouts, window screens, lamp posts, signs, concrete forms, heating and air conditioning equipment large fixed stationary tools, and other mechanical equipment.

Thermal Spraying



Background

Thermal spraying is a process in which metals are melted and sprayed on a surface to form a coating. The metals that are sprayed can be pure metals or alloys that are generally in the form of powders, wires, or rods. During the metal spraying process, air emissions can include metal fumes and small metal particles that may be toxic. The Air Resources Board is investigating whether the air emissions from thermal spraying need additional controls to protect public health.

Composite Wood Products ATCM



Background

Formaldehyde is produced on a large scale worldwide. One major use includes the production of wood binding adhesives and resins. The Air Resources Board (ARB) evaluated formaldehyde exposure in California and found that one of the major sources of exposure is from inhalation of formaldehyde emitted from composite wood products containing urea-formaldehyde resins. The International Agency for Research on Cancer (IARC) reclassified formaldehyde from "probably carcinogenic to humans" to "carcinogenic to humans" in 2004, based on the increased risk of nasopharyngeal cancer. Formaldehyde was also designated as a toxic air contaminant (TAC) in California in 1992 with no safe level of exposure. State law requires ARB to take action to reduce human exposure to all TACs.

Particulate Matter Program



Background

PM10 refers to particles with an aerodynamic diameter of 10 microns or smaller. For comparison, the diameter of a human hair is about 50 to 100 microns. Exposure to PM10 aggravates a number of respiratory illnesses and may even cause early death in people with existing heart and lung disease. PM10 includes the subgroup of finer particles with aerodynamic diameter of 2.5 microns and smaller (PM2.5). These finer particles pose an increased health risk because they can deposit deep in the lung and contain substances that are particularly harmful to human health. PM is a mixture of substances that include elements such as carbon and metals; compounds such as nitrates, organic compounds, and sulfates; and complex mixtures such as diesel exhaust and soil. These substances may occur as solid particles or liquid droplets. Some particles are emitted directly into the atmosphere. Others, referred to as secondary particles, result from gases that are transformed into particles through physical and chemical processes in the atmosphere.

HAP'S



Background

Hazardous air pollutants (HAPs) are chemicals which can cause adverse effects to human health or the environment. Congress has identified over 188 of these pollutants, including substances that cause cancer, neurological, respiratory, and reproductive effects. Recent studies have detected HAPs at concentrations that warrant public health concern in many cities. Congressional reports on exposure to HAPs in Los Angeles and the San Francisco Bay Area determined that the estimated cancer risks posed by current monitored concentrations of HAPs in those regions exceed the Clean Air Act's health goals by more than a factor of 100. In most areas, high concentrations of HAPs are primarily due to pollution sources like trucks or small businesses that have not had the same regulatory scrutiny as large industrial facilities. Moreover, a very small number of chemicals and chemical categories appear to account for the majority of health risks associated with hazardous air pollutants - in particular, diesel emissions from vehicles and equipment.