DRAFT

Safe Levels

Child safety should be the measure of acceptable lead levels in soil. The California Office of Environmental Health and Hazard Assessment (OEHHA) has determined that regular contact with a soil lead level of **80 parts per million (ppm)** would raise a child's blood lead level by one unit of measurement and consequently is an unsafe level for children to be exposed to. The current regulatory level for lead hazards in soil that are accessible to children in San Francisco is **400 ppm**. Most soil in San Francisco is contaminated with lead at the regulatory level of 400 ppm and a significant amount of soil in the city contains lead in the 80-399 ppm range.

It may be most practical for gardeners to assume that the soil they are considering for a garden is contaminated and to construct raised beds with a barrier layer (a porous landscape fabric) between new soil and the underlying contaminated soil. Unfortunately, California regulations allow commercial compost and soils to have up to **300 ppm of lead**. So, look for commercial soil and compost products that have the **Organic Materials Review Institute (OMRI) seal and no "caution" statement**. The OMRI seal without a "caution" statement indicates that the product contain no more than **90 ppm** of lead.

Lead Level Standard for soil	Source of Standard	Action for soils with lead at or above standard
400	San Francisco Health Code Article 26 Sec. 1603 http://library.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&vid=amlegal:sanfrancisco_ca	Must create raised beds with new soil or alternative method to prevent child access to contaminated soil
80	Cal/EPA OEHHA Residential California Human Health Lead Screening Level http://www.oehha.ca.gov/risk/pdf/LeadCHHSL091709.pdf	Recommend raised beds with new soil or alternative method to prevent child access to contaminated soil
90	Organic Material Review Institute http://www.omri.org/sites/default/files/opl_pdf/brand_new.pdf	Recommend raised beds with new soil with OMRI certification

Before beginning any gardening project do a visual survey of structures on the site and surrounding it to determine if any painted structures built before 1979 have damaged or peeling paint. Also, check to see if there are visible paint chips on the ground. If there is

damaged paint on any pre-1979 structure, it should be safely repaired by appropriately certified professionals before preparing the site for a garden.

If you wish to test the soil, rather than assume that it is contaminated, it is important to research the history of the site to determine if there were any commercial or industrial uses for the property that may have caused contamination with lead and other toxic substances. If there is an indication that the site has an industrial or commercial history, an environmental consultant specializing in hazardous waste or a state registered environmental assessor should conduct an assessment and recommend appropriate corrective actions for any identified hazards.

If the site only has a history of residential use, soil sampling using the Housing and Urban Development (HUD) protocol[1] can be done to determine if there is a lead hazard. Soil samples should be sent to an Environmental Protection Agency (EPA) laboratory[2] approved for analyzing lead in soil. If the sample results are 80 ppm or higher it is not safe for children to have contact with the soil. If the sample results are 400 ppm or higher the soil is a lead hazard which needs to be corrected to prevent contact or access restricted to prevent child exposure.

[1] HUD soil testing protocol can be found in the "**Lead Hazard Guidance for Urban Gardening" accessed through the** San Francisco Dept. of Public Health website https://www.sfdph.org/dph/EH/CEHP/Lead/default.asp

[2] EPA approved lead testing laboratories: http://www.epa.gov/lead/pubs/nllap.htm