

Lead and compounds (as Pb except alkyl lead compounds)

Pb

[CAS No. 7439-92-1]

OEL-M: 0.03 mg/m³

Occupational carcinogen: Group 2B

Summary of OEL-M documentation

Lead is a blue-gray or silver-gray soft metal and is present in electrodes of lead battery, alloy, lead glass, anticorrosive pigment, bullet, sound-proof sheet, radiation shielding material, and fine arts and crafts. The Japan Society for Occupational Health proposes 0.03 mg/m³ as OEL-M for lead, corresponding to the revised OEL-B of 15 µg/100 ml (blood lead) based on two recent epidemiological studies regarding the relationship between air and blood lead among relatively low-level exposed workers^{1,2)}.

Further revision will be discussed if reproductive toxicity below OEL-B is established. Carcinogenicity classification is maintained as group 2B because of insufficient animal evidence while International Agency for Research on Cancer upgraded to group 2A. Oral administration to rodents caused renal cancer, but no carcinogenicity was observed in an inhalation study.

Year of Proposal (revision): 2016 (OEL-M 0.03 mg/m³)

Year of Proposal: 1982 (OEL-M 0.1 mg/m³, Occupational carcinogen: Group 2B)

References

- 1) Ibiebele DD. Air and blood lead levels in a battery factory. *Science of the Total Environment* 1994; 152 (3): 269–273.
- 2) Karita K, Shinozaki T, Yano E, et al. Blood lead levels in copper smelter workers in Japan. *Industrial Health* 2000; 38 (1): 57–61.