



>>Entry Name: Lead(IV) oxide (PbO<sub>2</sub>), 9CI

Synonym(s): Lead peroxide (incorr.). Lead dioxide

CAS Registry Number: 1309-60-0

Related CAS Registry Numbers(s): 1317-76-6

PbO<sub>2</sub>

Molecular Formula: O<sub>2</sub>Pb

Molecular Weight: 239.199

Accurate Mass: 239.966457

Percentage Composition: O 13.38%; Pb 86.62%

Source/Synthesis: Prepd. by the hypochlorite oxidation of Pb(OAc)<sub>2</sub> solns. or from Pb<sub>3</sub>O<sub>4</sub> + HNO<sub>3</sub> or in a pure form by hydrolysis of Pb(OAc)<sub>4</sub>

Use/Importance: Oxidising agent. Used in matches and pyrotechnics. Used in plates for lead-acid storage batteries

Physical Description: Dark brown powder. Dec. on heating

Melting Point: Mp 290 dec.°

Solubility: Insol. H<sub>2</sub>O

Hazard & Toxicity: Toxic. LD<sub>50</sub> (gpg, ipr) 220 mg/kg

Aldrich: 23714-0

Fluka: 15342

Sigma: L3006

Other: Gelest PBL6400

>>Variant: Mineral-form

Synonym(s): Plattnerite

Molecular Formula: O<sub>2</sub>Pb

Molecular Weight: 239.199

Accurate Mass: 239.966457

Percentage Composition: O 13.38%; Pb 86.62%

Source/Synthesis: Secondary mineral found in Idaho and other places in USA, Mexico, Scotland and Namibia

Physical Description: Brownish to iron black cryst.

#### References:

*Inorg. Synth.*, 1939, **1**, 45, (*synth*)

Kuhn, R. *et al.*, *Chem. Ber.*, 1950, **83**, 413, (*synth*)

*Dana's System of Mineralogy*, 7th Edn., Wiley, N.Y., 1951, **1**, 581, (*mineral*)

Bousquet, J. *et al.*, *Bull. Soc. Chim. Fr.*, 1968, 3206, (*synth, rev*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **2**, 775, (*synth*)

Huan Nguyen Cong *et al.*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1979, **288**, 205, (*synth*)

D'Antonio, P. *et al.*, *Acta Cryst. B*, 1980, **36**, 2394, (*cryst struct*)

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