



>>Entry Name: Silver(I) oxide (Ag<sub>2</sub>O)

Synonym(s): Argentous oxide

CAS Registry Number: 20667-12-3

Extra CAS Registry Numbers(s): 11113-88-5

Ag<sub>2</sub>O

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

Molecular Weight: 231.736

Accurate Mass: 229.805099

Percentage Composition: Ag 93.10%; O 6.90%

Isostructural with Cu<sub>2</sub>O

**Use/Importance:** Catalyst; used in the purif. of drinking water; in the glass industry (polishing, colouring glass yellow). Commercially available

**Physical Description:** Brownish-black, heavy, odourless powder. Light sensitive

**Solubility:** Insol. alcohols. V. spar. sol. H<sub>2</sub>O. Freely sol. dil. HNO<sub>3</sub>, NH<sub>3</sub>

**Other Data:** Begins to dec. at 200° and at 250-300° dec. is rapid. When moist, absorbs CO<sub>2</sub>.  $\Delta H_f^\circ -30.7 \text{ kJ mol}^{-1}$

Aldrich: 22116-3

Fluka: 85260

Sigma: S2398

#### References:

Madsen, C., *Z. Anorg. Allg. Chem.*, 1913, **79**, 197, (*synth*)

Davey, W.P., *Phys. Rev.*, 1922, **19**, 248, (*cryst struct*)

Niggli, P., *Z. Kristallogr.*, 1922, **57**, 253, (*cryst struct*)

Riley, H.L. *et al.*, *J.C.S.*, 1926, 2510, (*synth, props*)

Hsieh, S.L. *et al.*, *CA*, 1960, **54**, 5312c, (*synth*)

McDevitt, N.T. *et al.*, *Spectrochim. Acta*, 1964, **20**, 799, (*ir*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **2**, 998, (*synth*)

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