



>>Entry Name: Thionyl bromide

Synonym(s): Sulfur(IV) oxybromide. Sulfur(IV) dibromide oxide. Sulfinyl dibromide

CAS Registry Number: 507-16-4

$\text{Br}_2\text{S}=\text{O}$

Molecular Formula: Br_2OS

Molecular Weight: 207.873

Accurate Mass: 205.843657

Percentage Composition: Br 76.88%; O 7.70%; S 15.43%

Source/Synthesis: Synth. from $\text{SOCl}_2 + \text{HBr}$

Use/Importance: Commercially available

Physical Description: Orange-yellow liq., slowly dec. on keeping. Hydrol. to $\text{HBr} + \text{SO}_2$

Melting Point: Mp -52°

Boiling Point: Bp 140° . Bp₂₀ 48°

Solubility: Sol. CS_2 , CCl_4 , CHCl_3 , C_6H_6

Density: d^{20}_4 2.685

Aldrich: 25125-9

Fluka: 88940

References:

Aldrich Library of FT-IR Spectra, 1st edn., 1985, **2**, 1227C, (ir)

Inorg. Synth., 1939, **1**, 113, (synth)

Mines, G.W. *et al.*, *Proc. R. Soc. London, A*, 1972, **329**, 275, (struct)

Brauer, G., *Handbuch Prep. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 390, (synth)

Gmelin Handbook Inorg. Chem., Syst. No. 9, 1978, **B1**, 63, (bibl)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, SNT200