



>>Entry Name: Nitrosyl fluoride ((NO)F), 11Cl

Synonym(s): Nitrogen oxyfluoride

CAS Registry Number: 7789-25-5

O=NF (C_s)

Molecular Formula: FNO

Molecular Weight: 49.004

Accurate Mass: 48.996392

Percentage Composition: F 38.77%; N 28.58%; O 32.65%

Source/Synthesis: Synth. from NO₂ + KF or NOBF₄ + NaF

Use/Importance: Fluorinating agent, oxidiser in rocket propellants

Physical Description: Colourless gas, stable in glass containers. Hydrol. rapidly to HF + HNO₂

Melting Point: Mp -132.5°

Boiling Point: Bp -59.9°

Hazard & Toxicity: Irritant, poison

References:

Magnuson, D.W., *J. Chem. Phys.*, 1951, **19**, 1071, (*struct*)

Inorg. Synth., 1968, **11**, 194, (*synth, vp, ir*)

Buckton, K.S. *et al.*, *Trans. Faraday Soc.*, 1969, **65**, 1975, (*struct*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 201, (*synth*)

Holloway, J.H. *et al.*, *Adv. Inorg. Chem. Radiochem.*, 1983, **27**, 157, (*rev*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, NMH500