



>>Entry Name: Acetyl nitrate

CAS Registry Number: 591-09-3

$\text{H}_3\text{CCOONO}_2$

Molecular Formula: $\text{C}_2\text{H}_3\text{NO}_4$

Molecular Weight: 105.05

Accurate Mass: 105.006209

Percentage Composition: C 22.87%; H 2.88%; N 13.33%; O 60.92%

Use/Importance: Powerful nitrating agent with selective action

Physical Description: Hygroscopic fuming liq.

Boiling Point: Bp_{70} 22°

Density: d^{15} 1.24

Hazard & Toxicity: Explodes violently if suddenly heated. Sensitive to shock. Corrosive to the eye and other tissues

References:

Pictet, A. *et al.*, *Ber.*, 1907, **40**, 1164, (*synth*)

Konig, W., *Angew. Chem.*, 1955, **67**, 157, (*haz*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 13; 1979, **7**, 3; 1986, **12**, 530, (*use*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, ACS750

Bretherick, L., *Handbook of Reactive Chemical Hazards*, 4th edn., Butterworths, 1990, 0717

Luxon, S.G., *Hazards in the Chemical Laboratory*, 5th edn., Royal Society of Chemistry, 1992, 15