>>**Entry Name: Lithium nitrate ($LiNO_3$)**
Synonym(s): Nitric acid, lithium salt, 8CI

CAS Registry Number: 7790-69-4
$LiNO_3$

Molecular Formula: $LiNO_3$
Molecular Weight: 68.946
Accurate Mass: 69.003822
Percentage Composition: Li 10.07%; N 20.32%; O 69.62%

Source/Synthesis: Prepd. by slow neutralisation of Li_2CO_3 with HNO_3; cryst. as trihydrate
Use/Importance: Commercially available. Component of low melting salt mixtures (e.g. $LiNO_3$-KNO_3 eutectic)
Physical Description: White rhombohedral cryst.; hygroscopic
Melting Point: Mp 264°
Solubility: V. sol. H_2O (90 g per 100 cm^3 at 28°; 234 g per 100 cm^3 at 100°); sol. EtOH, Py
Other Data: ΔH_f° –483 kJ mol^{-1}; ΔG_f° –381 kJ mol^{-1}; S° 90 J K^{-1} mol^{-1}
Hazard & Toxicity: Oxidiser, irritant

Aldrich: 22798-6
Fluka: 62575
Sigma: L4658

>>**Derivative:** Trihydrate

CAS Registry Number: 13453-76-4
Molecular Formula: H_6LiNO_6
Molecular Weight: 122.992
Accurate Mass: 123.035517
Percentage Composition: H 4.92%; Li 5.64%; N 11.39%; O 78.05%
Use/Importance: Latent heat storage material; phase change material
Physical Description: Colourless cryst. Dec. on heating by H_2O loss (–2½ H_2O at 30°; –3H_2O at 61°)
Melting Point: Mp 30°
Solubility: V. sol. H_2O (35 g per 100 cm^3 at 0°; 57.5 g per 100 cm^3 at 30°); sol. EtOH, MeOH, Me_2CO
Other Data: ΔH_f° –1374 kJ mol^{-1}; ΔG_f° –1104 kJ mol^{-1}; S° 223 J K^{-1} mol^{-1}; ΔH_{fus} 36.4 kJ mol^{-1}

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