



>>Entry Name: Lithium hypochlorite

Synonym(s): Lithium chlorate(*I*). Chloric(*I*) acid, lithium salt. Hypochlorous acid, lithium salt, 8Cl

CAS Registry Number: 13840-33-0

LiOCl

Molecular Formula: CILiO

Molecular Weight: 58.393

Accurate Mass: 57.97977

Percentage Composition: Cl 60.71%; Li 11.89%; O 27.40%

Source/Synthesis: Obt. by chlorination of LiOH suspensions in satd. aq. LiOH. LiCl byproduct is removed by initial crystallisation. LiOCl.H₂O then separates; it is purified by washing with Me₃COH before being dehydrated by gentle heating under reduced pressure. (Reaction often carried out in presence of NaOH or KOH to reduce LiCl formn.). Alternatively produced by treatment of Ca(OCl)₂ with Li₂SO₄ or Li₂CO₃ or by treatment of LiCl with NaOCl or KOCl in aq. soln.

Use/Importance: Disinfectant; constituent of bleach compositions and detergent rinses for dishwashers. Heat stabiliser for synthetic rubbers

Physical Description: White powder

Solubility: V. sol. H₂O

Hazard & Toxicity: Oxidiser, corrosive

Aldrich: 43251-2

Fluka: 62540

>>Derivative: Monohydrate

CAS Registry Number: 72235-64-4

Molecular Formula: ClH₂LiO₂

Molecular Weight: 76.408

Accurate Mass: 75.990335

Percentage Composition: Cl 46.40%; H 2.64%; Li 9.08%; O 41.88%

Source/Synthesis: Cryst. from aq. soln. of LiOCl

Use/Importance: Dehydration under reduced pressure yields anhyd. LiOCl

Physical Description: Colourless cryst. (H₂O)

Solubility: V. sol. H₂O

References:

U.S. Pat., 1945, 2 384 629; *CA*, 1946, **40**, 184¹, (*manuf*)

U.K. Pat., 1946, 581 948; 581 949; *CA*, 1947, **41**, 2215e, (*manuf*)

Gmelin Handbook Inorg. Chem., Syst. No. 28, 1960, 399, (*rev, bibl*)

Malevskaya, I.A. *et al.*, *CA*, 1983, **99**, 27736, (*disinfectant*)

U.S. Pat., 1983, 4 390 448; *CA*, **99**, 89911, (*bleach compositions*)

Pellenbarg, R.E. *et al.*, *CA*, 1986, **105**, 11773, (*disinfectant*)

Eur. Pat., 1986, 177 109; *CA*, **104**, 226779, (*rinse*)

Japan. Pat., 1986, 61 34 039; *CA*, **105**, 44071, (*heat stabilisers*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, LHJ000