



>>Entry Name: Cobaltate ($\text{CoO}_2^{(-)}$), 10CI

$[\text{CoO}_2]^{(-)}$

Molecular Formula: $\text{CoO}_2^{(-)}$

Molecular Weight: 90.932

Accurate Mass: 90.923028

Percentage Composition: Co 64.81%; O 35.19%

General Statement: Edge shared CoO_6 layer lattice; $\text{M}^{(+)}$ between layers

Source/Synthesis: Salts obt. by heating mixt. of oxides or $[\text{Co}(\text{NH}_3)_6]^{3(+)} + \text{MOH} (\text{aq.})$

>>Derivative: Li salt

Synonym(s): Lithium cobalt oxide (LiCoO_2)

CAS Registry Number: 12190-79-3

Molecular Formula: CoLiO_2

Molecular Weight: 97.873

Accurate Mass: 97.939031

Percentage Composition: Co 60.21%; Li 7.09%; O 32.69%

Use/Importance: Rapid $\text{Li}^{(+)}$ diffusion gives use as rechargeable battery cathodes

Other Data: Most studied MCoO_2 compd.

>>Derivative: Na salt

Synonym(s): Sodium cobalt oxide (NaCoO_2)

CAS Registry Number: 37216-69-6

Molecular Formula: CoNaO_2

Molecular Weight: 113.922

Accurate Mass: 113.912795

Percentage Composition: Co 51.73%; Na 20.18%; O 28.09%

Use/Importance: Some use as battery material

Other Data: Semiconductor. Can be Na deficient down to $\text{Na}_{0.46}$

References:

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