



Physical Description: Oil

Optical Rotation: $[\alpha]_D^{20} +24$ (c, 5.6 in C_6H_6)

>>**Variant:** (S)-form

Synonym(s): L-form

CAS Registry Number: 533-50-6

Molecular Formula: $C_4H_8O_4$

Molecular Weight: 120.105

Accurate Mass: 120.04226

Percentage Composition: C 40.00%; H 6.71%; O 53.28%

Source/Synthesis: Produced by dehydrogenation of Erythritol [BBF48-I](#) by *Acetobacter suboxydans*

Optical Rotation: $[\alpha]_D^{20} +13.3$ (c, 2.25 in H_2O)

Fluka: 45698

Sigma: E3012

>>**Derivative:** 2-Nitrophenylhydrazone

CAS Registry Number: 35816-30-9

Melting Point: Mp 152-153°

Optical Rotation: $[\alpha]_D^{18} +45$ (EtOH)

>>**Derivative:** Phenyllosazone

Molecular Formula: $C_{16}H_{18}N_4O_2$

Molecular Weight: 298.344

Percentage Composition: C 64.41%; H 6.08%; N 18.78%; O 10.73%

Melting Point: Mp 165-169°

>>**Derivative:** Dimethyl ketal, 1-phosphate

Melting Point: Mp 165-167° (as dicyclohexylammonium salt monohydrate)

Optical Rotation: $[\alpha]_D -13$ (c, 2.0 in H_2O)

References:

Chu, N.J. *et al.*, *J.A.C.S.*, 1961, **83**, 1711, (*synth*)

Linek, K. *et al.*, *CA*, 1970, **72**, 101058s, (*synth*)

Ando, T. *et al.*, *Bull. Chem. Soc. Jpn.*, 1972, **45**, 2611, (*synth*)

Haas, H.J. *et al.*, *Annalen*, 1974, 342, (*synth*)

Wróblewski, A.E. *et al.*, *Carbohydr. Res.*, 1984, **131**, 325, (*1,3-dibenzyl*)