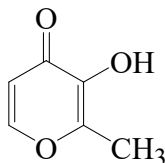




>>Entry Name: 3-Hydroxy-2-methyl-4*H*-pyran-4-one, 9CI

ENTRY UNDER REVIEW

Synonym(s): 3-Hydroxy-2-methyl- γ -pyrone. **Maltol**. **Laricin**†. Laricinic acid. Larixinic acid. Veltol. FEMA 2656



CAS Registry Number: 118-71-8

Related CAS Registry Numbers(s): 65416-14-0

Molecular Formula: C₆H₆O₃

Molecular Weight: 126.112

Accurate Mass: 126.031695

Percentage Composition: C 57.14%; H 4.80%; O 38.06%

Biological Source: Found in larch trees (*Larix decidua*), pine needles, chicory, wood tars, roasted malt and produced by alkaline hyd. of Streptomycin [CLB08-F](#). Also from ferns *Arachniodes maximowiczii* and *Macrothelypteris torresiana*

Use/Importance: Used as metal indicator (e.g. for Fe(III)). Flavour enhancer and flavouring agent, used in foods and pharmaceutical formulations

Physical Description: Needles or prisms (toluene or CHCl₃) with odour of caramel/butterscotch

Melting Point: Mp 161-162°

Solubility: Mod. sol. H₂O; sol. EtOH

UV: [neutral] $\lambda_{\max}$ 318 () (MeOH) (Berdy) [acid] $\lambda_{\max}$ 274 (ϵ 8400) (HCl) (Berdy) [base] $\lambda_{\max}$ 317 (ϵ 7300) (NaOH) (Berdy)

Hazard & Toxicity: Skin irritant. LD₅₀ (rat, orl) 2330 mg/kg

Aldrich: W26560-8

Fluka: 55849

Sigma: H5137

>>Derivative: *O*- β -D-Glucopyranoside

Synonym(s): **Dianthoside**. Maltol glucoside

CAS Registry Number: 20847-13-6

Molecular Formula: C₁₂H₁₆O₈

Molecular Weight: 288.254

Accurate Mass: 288.08452

Percentage Composition: C 50.00%; H 5.59%; O 44.40%

Biological Source: Isol. from *Dianthus* sp. and other plants, e.g. from ferns *Arachniodes maximowiczii*, *Macrothelypteris torresiana*, *Parathelypteris* spp. *Metathelypteris laxa*

Physical Description: Cryst. (EtOH/EtOAc)

Melting Point: Mp 132°

Optical Rotation: $[\alpha]_D$ -52.8 (H₂O)

>>Derivative: *O*-[3-Methylbutanoyl-($\rightarrow$ 6)- β -D-glucopyranoside]

Molecular Formula: C₁₇H₂₄O₉

Molecular Weight: 372.371

Accurate Mass: 372.142035

Percentage Composition: C 54.83%; H 6.50%; O 38.67%

Biological Source: Constit. of *Prangos tschimganica*

Physical Description: Oil

Optical Rotation: $[\alpha]_D^{25}$ -19.2 (c, 0.5 in MeOH)

UV: [neutral] $\lambda_{\max}$ 256 (log ϵ 4.7) (MeOH)

>>Derivative: *O*-[3,4,5-Trihydroxybenzoyl-($\rightarrow$ 6)- β -D-glucopyranoside]

Molecular Formula: C₁₉H₂₀O₁₂

Molecular Weight: 440.36

Accurate Mass: 440.09548

Percentage Composition: C 51.82%; H 4.58%; O 43.60%

Biological Source: Constit. of the leaves of *Gordonia axillaris*

Physical Description: Off-white amorph. powder