

Product Name:	8-Hydroxyquinoline
Product Number:	H006
CAS Number:	148-24-3
Molecular Formula:	C ₉ H ₇ NO
Molecular Weight:	145.16
Form:	Powder
Appearance:	White or light yellow crystalline powder
Solubility:	Freely soluble in ethanol, acetone, chloroform, and benzene. Insoluble in water.
Source:	Synthetic
Water Content (Karl Fischer):	≤0.5%
Storage Conditions:	2-8 °C
Description:	8-Hydroxyquinoline is a quinolone compound and antifungal with chelating properties. It is a natural product found in the root exudate of the invasive plant <i>Centaurea diffusa</i> . When in aqueous solution, it reacts with metal ions, forming 8-hydroxyquinolinato-chelate complexes. The complexes and the heterocycle itself have disinfectant properties. When in alcohol, the solution can be used in liquid bandages. Its halogenated derivatives can be used as anti-infectives. 8-Hydroxyquinoline is freely soluble in ethanol, acetone, chloroform, and benzene but is insoluble in water.
Mechanism of Action:	RNA synthesis inhibitor that interferes with transcription. The antifungal mode of action appears to be structurally related but is not yet characterized.
Spectrum:	Effective against fungi including Trichophyton mentagrophytes, Myrothecium verrucaria, and Trichoderma viride
Microbiology Applications	8-Hydroxyquinoline can inhibit RNA synthesis in yeast cells by chelating essential divalent ions Mn ²⁺ and Mg ²⁺ required for RNA polymerase activity.
Plant Biology Applications	<p>8-Hydroxyquinoline is a floral preservative for cut flowers, increasing vase life by ~ 40% (Elgimabi and Ahmed, 2009) (Hojjati, 2007).</p> <p>8-Hydroxyquinoline is a chelator of available iron and this property can be exploited by using the compound as a selective agent in low-iron media to screen for plant growth-stimulating and antagonistic fluorescent pseudomonads (Geels et al, 1985).</p>

References:

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- Geels FP, Schmidt DL and Schippers B (1985) The use of 8-hydroxyquinoline for the isolation and prequalification of plant growth-stimulating rhizosphere pseudomonads. *B. Biol Fert Soils* 1(4):167-173
- Hojjati Y, Khalighi A and Farokhzad AR (2007) Chemical treatments of *Eustoma* cut flower cultivars for enhanced vase life. *J. Agric. and Soc. Sci.* 1813–2235
- Liang SH et al (2015) Novel fluorinated 8-Hydroxyquinoline based metal ionophores for exploring the metal hypothesis of Alzheimer's Disease. *ACS Med. Chem. Lett.* 6(9):1025-1029
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