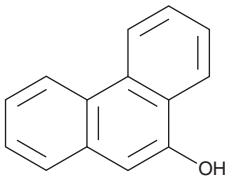
# PRODUCT INFORMATION

## 9-Phenanthrol

*Item No. 15248*

**CAS Registry No.:** 484-17-3
**Synonyms:** 9-Hydroxyphenanthrene, NSC 50554
**MF:** $C_{14}H_{10}O$
**FW:** 194.2
**Purity:** ≥98%
**UV/Vis.:** $\lambda_{max}$: 249, 254 nm
**Supplied as:** A solid
**Storage:** -20°C
**Stability:** ≥4 years




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

9-Phenanthrol is supplied as a solid. A stock solution may be made by dissolving the 9-phenanthrol in the solvent of choice, which should be purged with an inert gas. 9-Phenanthrol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 9-phenanthrol in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 9-phenanthrol can be prepared by directly dissolving the solid in aqueous buffers. The solubility of 9-phenanthrol in PBS (pH 7.2) is approximately 0.2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

9-Phenanthrol is an inhibitor of transient receptor potential melastatin 4 (TRPM4; $IC_{50}$s = 19.1, 17.1, and 22.8 µM at +40, -40, and -80 mV, respectively, in HEK293 cells expressing the human receptor).[1] It is selective for TRPM4 over TRPM5 at 100 µM. 9-Phenanthrol (100 µM) reduces heart rate in spontaneously beating isolated mouse right atria.[2] It reduces infarct size and apoptosis in isolated rat hearts in an *ex vivo* model of ischemia-reperfusion injury.[3] *In vivo*, 9-phenanthrol reduces myogenic tone in rat cerebral arteries.[4]

### References


1. Grand, T., Demion, M., Norez, C., *et al.* 9-phenanthrol inhibits human TRPM4 but not TRPM5 cationic channels. *Br. J. Pharmacol.* **153(8)**, 1697-1705 (2008).
2. Hof, T., Simard, C., Rouet, R., *et al.* Implication of the TRPM4 nonselective cation channel in mammalian sinus rhythm. *Heart Rhythm* **10(11)**, 1683-1689 (2013).
3. Wang, J., Takahashi, K., Piao, H., *et al.* 9-Phenanthrol, a TRPM4 inhibitor, protects isolated rat hearts from ischemia-reperfusion injury. *PLoS One* **8(7)**, e70587 (2013).
4. Gong, Y., Du, M.-Y., Yu, H.-L., *et al.* Increased TRPM4 activity in cerebral artery myocytes contributes to cerebral blood flow reduction after subarachnoid hemorrhage in rats. *Neurotherapeutics* **16(3)**, 901-911 (2019).





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