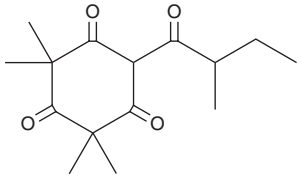
PRODUCT INFORMATION

Isoleptospermone

Item No. 44965

CAS Registry No.:	7375-66-8
Formal Name:	2,2,4,4-tetramethyl-6-(2-methyl-1-oxobutyl)-1,3,5-cyclohexanetrione
MF:	$C_{15}H_{22}O_4$
FW:	266.3
Purity:	≥95%
Supplied as:	An oil
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

Isoleptospermone is supplied as an oil. A stock solution may be made by dissolving the isoleptospermone in the solvent of choice, which should be purged with an inert gas. Isoleptospermone is soluble in methanol and DMSO.

Description

Isoleptospermone is a polyketide synthase-derived β-triketone that has been found in *L. scoparium* and has diverse biological activities.[1-4] It inhibits 4-hydroxyphenylpyruvate dioxygenase (HPPD; IC_{50} = 14.3 µM for the *A. thaliana* enzyme).[1] Isoleptospermone is active against *B. subtilis* and *T. mentagrophytes* (MICs = 2 and 1 µg/ml, respectively).[2] It is lethal to *T. ni* and *C. includens* third-instar larvae (LC_{50}s = 19.7 and 20.4 µg/larva, respectively) and induces foliar damage in cabbage, soybean, and corn.[3] Isoleptospermone is also active against *S. scabiei* mites, young eggs, and mature eggs (LC_{50}s = 59.4, 40.3, and 101.7 mM, respectively).[4]

References

1. Dayan, F.E., Singh, N., McCurdy, C.R., *et al.* β-triketone inhibitors of plant p-hydroxyphenylpyruvate dioxygenase: Modeling and comparative molecular field analysis of their interactions. *J. Agric. Food Chem.* **57(12),** 5194-5200 (2009).
2. van Klink, J.W., Larsen, L., Perry, N.B., *et al.* Triketones active against antibiotic-resistant Bacteria: synthesis, structure-activity relationships, and mode of action. *Bioorg. Med. Chem.* **13(24),** 6651-6662 (2005).
3. Muturi, E.J., Neidmann, M.A., Ribeiro, V.P., *et al.* Insecticidal activity of manuka essential oil triketones against two major lepidopteran pests. *Pest Manag. Sci.* (2026).
4. Nammunige, N.A., Agnew-Francis, K.A., Fernando, D.D., *et al.* β-Triketones from Leptospermum scoparium (mānuka) oil show potential as scabicides. *Phytomedicine* **136,** 156321 (2025).

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