

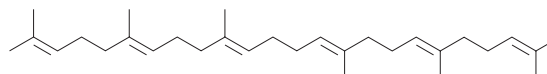
# PRODUCT INFORMATION



## Squalene

Item No. 27058

**CAS Registry No.:** 111-02-4  
**Formal Name:** (6E,10E,14E,18E)-2,6,10,15,19,23-hexamethyl-2,6,10,14,18,22-tetracosahexaene  
**Synonyms:** Spinacene, *trans*-Squalene  
**MF:** C<sub>30</sub>H<sub>50</sub>  
**FW:** 410.7  
**Purity:** ≥95%  
**Supplied as:** A neat oil  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Animal/Shark liver oil



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

### Laboratory Procedures

Squalene is supplied as a neat oil. A stock solution may be made by dissolving the squalene in the solvent of choice, which should be purged with an inert gas. Squalene is miscible in organic solvents such as ethanol, DMSO, and dimethyl formamide.

### Description

Squalene is a biosynthetic precursor to all steroids and a terpene originally isolated from shark liver oil.<sup>1,2</sup> Squalene is produced in mammals by condensation of two farnesyl diphosphate molecules by squalene synthase and then oxidized to squalene epoxide for use in the biosynthesis of lanosterol (Item No. 19521), cholesterol, and other steroids.<sup>1</sup> An oil-in-water emulsion of squalene synergistically increases adaptive immune responses to glucopyranosyl lipid adjuvant (GLA), a toll-like receptor 4 (TLR4) agonist, compared with an aqueous formulation of GLA.<sup>3</sup> Formulations containing squalene have been used as adjuvants in vaccines and as hair and skin conditioning agents.

### References

1. Tansey, T.R. and Shechter, I. Structure and regulation of mammalian squalene synthase. *Biochim. Biophys. Acta.* **1529(1-3)**, 49-62 (2000).
2. Kubota, B. The chemical composition of squalene. *Tokyo Kagaku Kaishi* **39**, 879-907 (1918).
3. Seydoux, E., Liang, H., Dubois Cauwelaert, N., *et al.* Effective combination adjuvants engage both TLR and inflammasome pathways to promote potent adaptive immune responses. *J. Immunol.* **201(1)**, 98-112 (2018).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM