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22 Date of Revision

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Sesame Oil

1 Nonproprietary Names

BP: Refined Sesame Oil
 JP: Sesame Oil
 PhEur: Sesame Oil, Refined
 USP–NF: Sesame Oil

2 Synonyms

Benne oil; gingelly oil; gingili oil; jinjili oil; *Lipovol SES*; sesami oleum raffinatum; teel oil.

3 Chemical Name and CAS Registry Number

Sesame oil [8008-74-0]

4 Empirical Formula and Molecular Weight

A typical analysis of refined sesame oil indicates the composition of the acids, present as glycerides, to be: arachidic acid 0.8%; linoleic acid 40.4%; oleic acid 45.4%; palmitic acid 9.1%; and stearic acid 4.3%. Sesamin, a complex cyclic ether, and sesamol, a glycoside, are also present in small amounts.

Note that other reported analyses may vary slightly from that above.⁽¹⁾

The monographs for Sesame Oil in the USP 40–NF 35 S1 and Refined Sesame Oil in the PhEur 9.2 specify the acceptable range of eight triglycerides found in sesame oil.

5 Structural Formula

See Section 4.

6 Functional Category

Oleaginous vehicle; solvent.

7 Applications in Pharmaceutical Formulation or Technology

The major use of sesame oil in pharmaceutical formulations is as a solvent in the preparation of sustained-release intramuscular injections of steroids, such as estradiol valerate, hydroxyprogesterone caproate, testosterone enanthate, and nandrolone decanoate,⁽²⁾ or other oil-soluble drug substances, such as the decanoate or enanthate esters of fluphenazine, haloperidol, and ergocalciferol. The disappearance of sesame oil from the injection site, following subcutaneous or intramuscular administration to pigs, has been reported to have a half-life of about 23 days.⁽³⁾ The *in vitro* drug release rates from oily depot formulations containing sesame oil intended for intra-articular administration have been reported,⁽⁴⁾ as has the *in vitro* release of local anesthetics from sesame oil suspensions.⁽⁵⁾

Sesame oil may be used as a solvent in the preparation of subcutaneous injections,⁽⁶⁾ oral capsules,^(7,8) rectal suppositories,⁽⁹⁾ and ophthalmic preparations;⁽¹⁰⁾ it may also be used in the formulation of suspensions⁽¹¹⁾ and emulsions.^(11–13)