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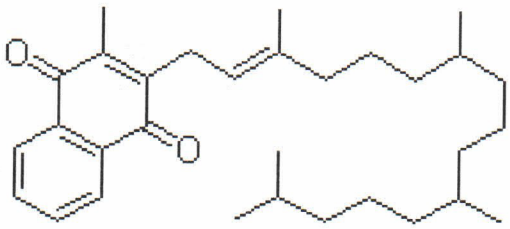
Vitamin K1 Oil/Phytonadione USP2024

Batch no	V250201
Mf date	Feb 21 2025
Retest	Feb 20 2027
Batch size	120.54 kgs

Molecular Structure



Molecular Formula	$C_{31}H_{46}O_2$
Molecular Weight	450.70
CAS Registry Number	84-80-0

Mar 25 2025

Tests	Specifications		Results
Appearance	A clear, intense yellow, viscous, oily liquid		Conforms
Solubility	Practically insoluble in water, sparingly soluble in alcohol, miscible with fatty oils		Conforms
Identification	UV, IR, Reaction 1 & 2		Positive
Refractive index	1.523 ~ 1.526		1.526
Impurities	Maximum single impurity	≤ 0.5%	0.2%
	Total impurities	≤ 1.0%	0.8%
Bacterial endotoxin	< 0.01 Eu/mg		Conforms
Residual solvents	Absolute alcohol	≤ 0.5%	Not found
	N-Hexane	≤ 0.5%	0.01%
Heavy metals	Pb	≤ 10 ppm	Conforms
	Lead	< 3 ppm	< 3 ppm
	Cadmium	< 1 ppm	< 1 ppm
	Mercury	< 0.1 ppm	< 0.1 ppm
	Arsenic	< 1 ppm	< 1 ppm
Microbial test	Total plate count	< 250 cfu/g	Conforms
	Yeast & mold	< 10 cfu/g	Conforms
	Coliforms	< 3 cfu/g	Conforms
	Staphyllocous aureus	< 10 cfu/g	Conforms
	Salmonella	Negative (Absent in 25 g)	Conforms
Assay (Z isomer)	≤ 21.0%		14.38%
Assay (Z & E isomers)	97.0% ~ 103.0%		98.37%

Packaging & storage	Preserve in tight and light-resistant containers. Store at room temperature.
Conclusion	Material complies with USP2024