

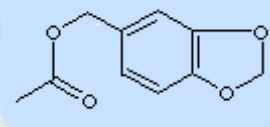
PIPERONYL ACETATE

SYNONYMS

1,3-Benzodioxol-5-ylmethyl acetate; 3,4-Methylenedioxybenzyl acetate; Acetic acid, (3,4-methylenedioxy)benzyl ester; Heliotropin acetate; Heliotropyl acetate; Piperonyl alcohol acetate; 1,3-Benzodioxole-5-methanol 5-acetate; FEMA No. 2912; FL No. 09.220;

PRODUCT IDENTIFICATION

CAS RN	326-61-4
EINECS RN	206-312-5
FORMULA	C ₁₀ H ₁₀ O ₄
MOLE WEIGHT	194.18



PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Colorless to pale yellow oily liquid
MELTING POINT	
BOILING POINT	150 – 151 C. at 10.00 mmHg
DENSITY	1.22 - 1.23
SOLUBILITY IN WATER	Slightly soluble (soluble in alcohol)
pH	
VAPOR DENSITY	
REFRACTIVE INDEX	1.5240 - 1.5290
FLASH POINT	113 C

STABILITY AND REACTIVITY

STABILITY	Stable under normal conditions.
INCOMPATIBLE MATERIALS	Strong oxidizing agents.
DECOMPOSITION PRODUCTS	Carbon monoxide, Carbon dioxide.
POLYMERIZATION	Has not been reported
NFPA RATINGS	

SAFETY

HAZARD NOTES	
EYE	May cause eye irritation.
SKIN	May cause skin irritation.
INGESTION	May be harmful.
INHALATION	May be harmful.
CHRONIC	

TRANSPORT & REGULATORY INFORMATION

UN NO.	
HAZARD CLASS	
PACKING GROUP	
HAZARD SYMBOL	
RISK PHRASES	
SAFETY PHRASES	

OTHER INFORMATION

Sassafras oil was formerly used in numerous household fragrance applications such as floor waxes, polishes, soaps, detergents and cleaning agents. Its ability to blend with



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other oils and its powerful masking properties made it valuable for such purposes. However, the principal use today is as a raw material for the isolation of safrole. This is then converted by the chemical industry into two important derivatives: heliotropin, which is widely used as a fragrance and flavouring agent, and piperonal butoxide (PBO), a vital ingredient of pyrethroid insecticides. Natural pyrethrum in particular would not be an economical insecticide without the addition of PBO as a synergist and the future of the natural pyrethrum industry is linked to the continued availability of PBO. (source: <http://www.fao.org/>)

Also known as piperonal or the oil of sassafras, heliotropin is an extract of sassafras that has been used for decades in the manufacture of perfumes and soaps. Heliotropin is a derivative of safrole, a naturally-occurring aromatic biochemical obtained from botanical sources such as *Cinamomum petrophilum* and *Sassafras albidum*. Although safroles are known to display antibacterial and antiviral activity, their use in foods has been banned because they are carcinogenic and hepatotoxic (toxic to the liver). As such, safrole derivatives are not considered nutritional phytochemicals, but some of them are being exalted for their aromatherapeutic properties. Research at Memorial Sloan-Kettering Cancer Center found a 63 percent decrease in patient anxiety during magnetic resonance imaging scans when the air was scented with the vanilla-like aroma of heliotropin. Purified heliotropin crystals have been sold in stores alongside aromatic oils, but the distribution of this compound is becoming increasingly controlled because it is frequently being used to manufacture designer drugs, such as Ecstasy and methylenedioxyamphetamine (MDA). (source: <http://www.rocw.raifoundation.org/>)

Safrole's smell has been variously described in terms of other molecules. Safrole probably interacts with the same olfactory G-coupled receptors as the volatiles in the anise plant, and this makes sense insofar as some of the components in the oil of anise are structurally similar [but not the same as -- Erowid] to safrole. It is accurately described as a candy-shop odour. Go into a place which sells more sugary things than chocolatey things and take a deep whiff. It is also reminiscent of ginger. It has been described as smelling like MDMA, anise, rootbeer, sassafras oil, MDA, mCPP or sodium lactate. Halo-derivatives of safrole are said to have similar smells to the parent molecule. (source: <http://www.erowid.org/>)

Some derivatives of safrol

Product	CAS RN.	USE
Barthrin	70-43-9	Insecticide
Bucarpolate	136-63-0	pesticide synergist
Medibazine	53-31-6	Therapeutic Agent
Methyl piperonylate	326-56-7	chemical building block
Niperotidine	84845-75-0	Therapeutic Agent
Oxmetidine hydrochloride	63204-23-9	Antagonist to histamine H2 receptors
Oxmetidine mesylate	84455-52-7	Antagonist to histamine H2 receptors
Oxmetidine	72830-39-8	Antagonist to histamine H2 receptors
Pipamperone	1893-33-0	Central Nervous System Agents
Piperonal	120-57-0	Fungicide, bactericide, preservative, Fragrance (powdery accords, florals: muguet, carnation, lilac)
Piperonyl acetate	326-61-4	Fragrance (floral: muguet and lilac), Flavor
Piperonyl alcohol	495-76-1	Fragrance (sweet powdery vanilla), Flavor
Piperonyl butoxide	51-03-6	insecticide synergist,
Piperonyl cyclonene	119-89-1	Insecticide
Piperonyl sulfoxide	120-62-7	Insecticide
Piperonylic acid	94-53-1	Therapeutic Agent
Piribedil	3605-01-4	Central Nervous System Agents



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SALES SPECIFICATION

APPEARANCE	Colorless to pale yellow oily liquid
ASSAY	98.0% min (GC)
SPECIFIC GRAVITY	1.22 - 1.23
REFRACTIVE INDEX	1.5240 - 1.5290

PACKING

PRICE

