Substance Information Document

Ethyl cinnamate

1. Substance identity

Name	Ethyl cinnamate
Synonyms	Ethyl 3-phenyl-2-propenoate Ethyl 3-phenylacrylate Ethyl 3-phenylpropenoate Ethyl benzylideneacetate Ethyl trans-cinnamate Cinnamic acid ethyl ester 3-Phenyl-2-propenoic acid, ethyl ester
IUPAC Name	ethyl (E)-3-phenylprop-2-enoate
CAS	103-36-6

2. Toxicological information

Ethyl cinnamate (in non-vaporised form) is not characterised by a "known type of toxicity" and does not appear to be a substance of high concern for human health. Notably, it does not have CMR properties. Briefly, ethyl cinnamate shows low order of acute oral and dermal toxicity with LD_{50} values above 1520 mg/kg bw. Ethyl cinnamate was shown to have a significant sedative effect on mice. There is no indication that ethyl cinnamate induces irritation when applied dermally on human forearms up to 4% in petrolatum during 48-hour or following the application of undiluted ethyl cinnamate to the intact or abraded skin of rabbits for 24 hours under occlusion. Based on supportive evidence conducted *in vitro, in vivo* and with humans, ethyl cinnamate is not considered as a potential sensitizer. However, few cases of allergy and photoallergy to ethyl cinnamate have been reported in the literature.

There are limited data available on repeated-dose toxicity. In a non-valid study where rats were treated via oral gavage for 4 months and moderate effects were observed at 80 mg/kg bw/day but no pronounced pathological changes were observed. This observation, presumably, includes the heart and lungs. Ethyl cinnamate was tested for its vasorelaxant effect on male Wistar rat aorta. According to the investigators, the results suggest that the inhibitory effects of ethyl cinnamate may involve inhibition of Ca^{2+} influx into vascular cells and release of nitric oxide and prostacyclin from the endothelial cells.

According to the EFSA CEF Panel, cinnamyl alcohol and related compounds, including ethyl cinnamate, "lack direct mutagenic or genotoxic activity as indicated by the negative results obtained in bacterial test systems. The various studies carried out with supporting substances give no indication of a mutagenic activity in bacterial cells or of a direct clastogenic effect on mammalian cells.

JECFA	CINNAMYL ALCOHOL AND RELATED SUBSTANCES (inchem.org)
FEMA	3. GRAS Substances(2001-3124)_0.pdf (femaflavor.org)
EFSA	Scientific Opinion on Flavouring Group Evaluation 68 (FGE.68): Consideration of cinnamyl alcohol and related flavouring agents evaluated

	by JECFA (55th meeting) structurally related to aryl-substituted saturated and unsaturated primary alcohol/aldehyde/acid/ester derivatives evaluated by EFSA in FGE.15Rev1 (2008) | EFSA (europa.eu) Flavouring Group Evaluation 15, Revision 2 (FGE.15Rev2): Aryl-substituted saturated and unsaturated primary alcohol/aldehyde/acid/ester derivatives from chemical group 22 | EFSA (europa.eu)
ECHA – REACH dossier	Registration Dossier - ECHA (europa.eu)
PUBCHEM	Ethyl cinnamate | C11H12O2 - PubChem (nih.gov)
CIR	-
OSHA	-

3. Addictiveness and attractiveness

No substance-specific attractiveness data were identified. However, as a flavouring agent (with a sweet, balsamic-honey flavour/odour), it might, depending on the concentration used, increase the attractiveness of an ENDS product containing it.

Ethyl cinnamate was shown to have a significant sedative effect (reduced locomotor activity) when 6 male ddY mice were exposed, by inhalation, for 1 hour to 0.0012 mg dissolved in triethyl citrate [equivalent to 0.003 mg/mL], dropped onto filter papers and allowed to diffuse for 1 hour before exposure.

SCENIHR	-
EMA	-
PUBMED	Sedative activity of hexane extract of Keampferia galanga L. and its active compounds - PubMed (nih.gov)