Substance Information Document

alpha-Terpineol

1. Substance identity

Name	alpha-Terpineol
Synonyms	1-Menthene-8-ol; 1-Methyl-4-isopropyl-1-cyclohexen-8-ol; 1-Methyl-4-isopropyl-1-cyclohexene-8-ol; 1-p-Menthen-8-ol; 2-(4-Methyl-3-cyclohexenyl)-2-propanol; 3-Cyclohexene-1-methanol, alpha,alpha,4-trimethyl-; alpha,alpha,4-Trimethyl-3-cyclohexene-1-methanol; alpha-Terpinenol; Carvomenthol; p-Menth-1-en-8-ol; Terpenol; Terpilenol, alpha-
IUPAC Name	2-(4-methylcyclohex-3-en-1-yl)propan-2-ol
CAS	98-55-5

2. Toxicological information

Expert groups, including EFSA and JECFA concluded that alpha-terpineol would pose no safety concern at current levels of intake when used as a flavouring agent.

Alpha-terpineol has demonstrated to be of low acute toxicity. Acute oral and dermal toxicity studies were available for terpineol multi, (a multi-constituent substance with alpha-Terpineol as its main constituent and gamma-Terpineol as the minor constituent) 4300 mg/kg bw and >2000 mg/kg bw (LD_{50}), respectively. An LC_{50} value of 30100 mg/m^3 was calculated for acute inhalation toxicity.

The most conservative NOAEL of 578 mg/kg/day from the 90-day inhalation toxicity study was selected for the repeated dose toxicity endpoint based on the group mean reticulocyte percentage and the absolute reticulocyte count significantly lower than control values for males of the high dose group.

The most conservative NOAEL of 200 mg/kg/day was selected for the developmental toxicity endpoint. The test was conducted according to the OECD 414 protocol. Embryo-fetal growth was slightly reduced by maternal treatment as evidenced by reduced mean male and female fetal weight at 600 mg/kg bw/day.

Based on the current existing data, terpineol does not present a concern for genetic toxicity. Alpha-terpineol gave negative results in the bacterial reverse mutation (Ames) test and in the in vitro mouse lymphoma assay, both with and without metabolic activation. Negative results were observed for its read-across candidate terpineol multi (a multi-constituent substance with alpha-terpineol as its main constituent and gamma-terpineol as the minor constituent), in the in vitro chromosome aberration assay both with and without metabolic activation. Negative results were obtained when evaluating the clastogenic activity of terpineol in an in vitro micronucleus test.

No specific data are available on alpha-terpineol for carcinogenicity.

RIFM expert panel concluded that based on existing data for terpineol and the specific isomer alpha-terpineol, terpineol does not present a concern for skin sensitization.

JECFA	943. Aliphatic acyclic/alicyclic terpenoid tertiary alcohols... (WHO Food Additives Series 42) (inchem.org)
FEMA	GRASr2 Evaluation of Aliphatic Acyclic and Alicyclic Terpenoid Tertiary Alcohols and Structurally Related Substances Used as Flavoring Ingredients (wiley.com)
EFSA	Scientific Opinion on Flavouring Group Evaluation 18, Revision 3 (FGE.18Rev3): Aliphatic, alicyclic and aromatic saturated and unsaturated tertiary alcohols, aromatic tertiary alcohols and their esters from chemical groups 6 and 8 (wiley.com)
ECHA – REACH dossier	Registration Dossier - ECHA (europa.eu)
PUBCHEM	alpha-Terpineol | C10H18O - PubChem (nih.gov)
CIR	-
OSHA	-

3. Addictiveness and attractiveness

No relevant substance-specific addictiveness data were identified.

SCENIHR	-
EMA	-
PUBMED	-