PHENETHYL ACETATE

MODULE 1

SUBSTANCE INFORMATION SHEET

PHENETHYL ACETATE

CAS number	103-45-7
Natural Origin	Occurs naturally in a wide variety of food products, among which various fruits, beverages, cheese, butter, mushrooms, vinegar, and cinnamon.
Chemical Formula	C10H12O2
Synonyms	Acetic acid, 2-phenylethyl ester (9CI); Acetic acid, phenethyl ester (8CI); Benzylcarbinyl acetate; Ethanol, 2-phenyl-, acetate; beta-2-Phenethyl acetate; Phenethyl alcohol, acetate
E number	N/A
FEMA GRAS number	2857

General Information

Council of Europe (CoE)

Number	Comment
221	N/A

US Food & Drug Administration (FDA)

Number	Comment
21 CFR 172.515	Approved by U.S. FDA as Direct Food Additive.

Joint FAO/WHO Expert Committee on Food Additives (JECFA)

Number	ADI	Comment
989	Acceptable	No safety concern at estimated levels of intake as flavouring substances.

European Food Safety Authority (EFSA)

Number	Comment
09.031	No safety concern at estimated levels of intake as flavouring substances.

Flavors & Extracts Manufacturers Association (FEMA)

Number	Comment
2857	Generally Recognized as Safe as a flavor ingredient - GRAS 3.

Uses and Exposure

Phenethyl acetate is commonly added to food products with fruity, honey, butter, and chocolate flavors. Use levels of phenethyl acetate in food products are usually 0.05-5 mg/kg. Phenethyl acetate is also used in the cosmetic industry as fragrance agent.

Estimated Intake from Food and Drink

The daily intake is estimated at 100 µg/person per day in the Europe and 60 µg/person per day in the USA[1].

Summary of the Toxicological Investigations on the Use of the Substance in Tobacco Products

Smoke Chemistry

Internal Studies	Level Tested ppm	Comment
Carmines for Philip Morris	1	The effect of the addition of phenethyl acetate at concentrations up to 1 ppm on the composition of the cigarette smoke was investigated.
Philip Morris	100, 200, 400	The effect of the addition of phenethyl acetate at concentrations up to 400 ppm on the composition of the cigarette smoke was investigated.

Neutral Red Uptake Assay (NRU)

Internal Studies	Level Tested ppm	Comment
Carmines for Philip Morris	1	The effect of the addition of phenethyl acetate at concentrations up to 1 ppm on the cytotoxicity, as measured by the Neutral Red Uptake assay, was investigated.
Philip Morris	100, 200, 400	The effect of the addition of phenethyl acetate at concentrations up to 400 ppm on the cytotoxicity, as measured by the Neutral Red Uptake assay, was investigated.

AMES Assay

Internal Studies	Level Tested ppm	Comment
Carmines for Philip Morris	1	The effect of the addition of phenethyl acetate at concentrations up to 1 ppm on the mutagenic response, as measured by the Salmonella reverse mutation assay, was investigated.
Philip Morris	100, 200, 400	The effect of the addition of phenethyl acetate at concentrations up to 400 ppm on the mutagenic response, as measured by the Salmonella reverse mutation assay, was investigated.

Mouse Lymphoma Assay (MLA)

Internal Studies	Level Tested ppm	Comment
N/A	N/A	N/A

In vivo Micronucleus

Internal Studies	Level Tested ppm	Comment
Philip Morris	100, 200, 400	The effect of the addition of phenethyl acetate as part of a mixture at concentration up to 400 ppm on the clastogenic/aneugenic response, as measured by the in vivo Micronucleus Assay, was investigated.

Inhalation studies

Internal Studies	Level Tested ppm	Comment
Carmines for Philip Morris	1	The effect of the addition of phenethyl acetate as mix at concentrations up to 1 ppm on the toxicity of cigarette smoke, as suggested in a 90-day inhalation study, was investigated.
Philip Morris	100, 200, 400	The effect of the addition of phenethyl acetate as mix at concentrations up to 400 ppm on the toxicity of cigarette smoke, as suggested in a 90-day inhalation study, was investigated.

References

1. 59.Evaluation of certain food additives (Fifty-ninth report of the Joint FAO/WHO Expert Committee on Food Additives). WHO Technical Report Series, No. 913, 2002.