

Version 1 (January 202)



<https://bat.sharepoint.com/:f/r/sites/GBIN-CPS900/Shared%20Documents/Tox%20Reporting/Taiwan%20Reporting?csf=1&web=1&e=G0DYdm>

Propenyl Guaethol (5-)

Taiwan Reporting Repository

September 2026

Prepared by British American Tobacco

Version	Revision Description	Evaluator	Date
1	Integration of data repository into Taiwan reporting repository	I Williams	07 Sep 2026

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Identification & Characterisation

Table 1. Identification & Characterisation details of **Propenyl Guaethol (5-)**.

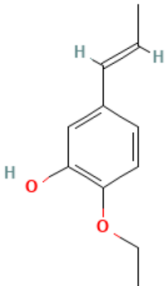
			Reference
Ingredient Name	Common	Propenyl Guaethol (5-).	PubChem ¹ ; ECHA ²
Synonyms of Common Name		Propenyl guaethol (5-); propenylguaethol Vanitrope; 2-ethoxy-5-(1-propenyl)phenol; isosafro Eugenol; 5-propenylguaethol; 2-ethoxy-5-[(E)-prop-1-enyl]phenol	PubChem ¹ ; ECHA ²
CAS Number		94-86-0	PubChem ¹
EINECS Number		202-370-0	PubChem ¹
Aroma Chemical or Natural		Aroma Chemical	
Molecular Formula		C ₁₁ H ₁₄ O ₂	PubChem ¹
Structural Formula			PubChem ¹
Canonical SMILE		CCOC1=C(C=C(C=C1)C=CC)O	PubChem ¹
Molecular Weight		178.23 g/mol	PubChem ³
Cramer Class		Class I	EFSA;ToxTree

Table 2. Physico-chemico properties of **Propenyl Guaethol (5-)**.

			Reference
Melting Point (°C)		87 °C	EPA ⁴
Boiling Point (°C)		313 °C	EPA
Solubility in Water (g/L)		0.116 g/L (estimated)	GoodScents ⁵
Flammability limits (% v/v)		Not specified	EPA, PubChem ¹ , ECHA ²

¹ [Propenyl Guaethol | C11H14O2 | CID 5354280 - PubChem](#)

² [2-ethoxy-5-prop-1-enylphenol 100.002.155 | Overview - ECHA CHEM](#)

³ [Propenyl Guaethol | C11H14O2 | CID 5354280 - PubChem](#)

⁴ [2-Ethoxy-5-\(1-propenyl\)phenol Properties](#)

⁵ [propenyl guaethol, 94-86-0](#)

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(Auto) Ignition Temp. (°C)	Not specified	EPA, PubChem, ECHA
Decomposition Temp. (°C)	Not specified	EPA, PubChem, ECHA
Stability	Not specified	EPA, PubChem, ECHA
Vapour Pressure	2.39×10^{-3} mmHg at 25 °C (Estimated)	EPA
Log K_{ow}	2.85 (estimated)	EPA
Henry's Law constant (or air-water partition coefficient) (atm m ³ /mole)	2.57×10^{-7} atm m ³ /mol (predicted)	EPA

Table 3. Regulatory or authoritative status of **Propenyl Guaethol (5-)**.

		Reference
FEMA Number	No. 2922	FEMA flavour library
CoE Number	No. 107. Approved in All categories of flavoured foods (Commission Implementing Regulation (EU) No 872/2012)	EC No. 1334/2008 Database
Flavis Number	No.04.002	EC No. 1334/2008 Database
JECFA Number	1264	JECFA
ADI	ADI: Acceptable. No safety concern at current levels of intake when used as a flavoring agent.	JECFA, TRS 922-JECFA 61/96
Intake (EFSA/JECFA)	"No safety concern" from use as a food flavouring agent based on current estimated levels of intake (approximately 0.7 µg/kg bw/day in Europe and 6 µg/kg bw/day in the USA). FEMA PADI: 1.446 mg	JECFA/WHO (2003), EFSA (2010)
History of Use	Reported Uses: Present in alcoholic beverages at 0.10 ppm, baked goods up to 26.63 ppm, in non-alcoholic beverages up to 1.85, chewing gum up to 14.03 ppm, in soft candy up to 15.38 ppm, Frozen dairy up to 2.86 ppm, sweet sauce up to 20.00 ppm and gelatins, puddings up to 3.56 ppm.	Fenaroli's Handbook
FDA	Approved for use in food under 21CFR172.515 GRAS	FDA Substances added to food
Substance of Very High Concern (SVHC) Candidate list	Not listed	ECHA SVHC Candidate list
ECHA Authorisation List	Not listed	ECHA Authorisation list
ECHA Health hazard classification (see Annex VII for	Reported notifications include Skin Irrit. 2 (H315), Eye Irrit. 2 (H319) and STOT SE 3 (H335).	ECHA

Comentado [JN1]: [Not for use](#)
 Provide a specific citation where data exists (e.g. JECFA, 2001), with the full reference given in the references section

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human health hazards) ⁶		
IARC classification	Not Listed	IARC
NTP classification	Not Listed	NTP RoC
EPA classification	Not Listed	EPA IRIS
Endocrine Disruptor Lists	Not Listed	Endocrine disruptor lists
Occupational limits	Not Listed	GESTIS
EU BAP Ingredient	Not Listed	EU No. 1334/2008
California Prop 65	Not Listed	OEHHA
Oral Allergy/ Intolerance	Not Listed	EU No. 1169/2011

⁶ According to the human health (including physical hazard) classifications in the ECHA C&L Inventory (<http://echa.europa.eu/information-on-chemicals/cl-inventory-database>); environmental classifications are beyond the scope of this monograph.

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Taiwan Referencing Convention

Each of the following sections requires a *brief description of reference, formal citation*, and 'A' number designated. Only one reference needs to be provided per section (essentially, presence or absence of data).

If ingredient specific references cannot be identified for any of the sections below, insert 'N/A' where appropriate.

Each reference cited in the following sections must have a unique identifier, starting with an 'A', followed by 4 digits. This is the prescribed format of Taiwan's regulatory authority.

Once saved on a local drive and named according to convention, references must be stored in the following folder location on SharePoint:

Taiwan 'A' References

As of 31st December 2024, the latest reference was saved as A0690. The next reference identified for any given Taiwan Reporting Repository must follow chronologically, A0691, A0692, etc. Please check the Taiwan 'A' references folder⁷ on SharePoint for the next unique identifier in sequence.

Once the following sections are completed, with references collated. All references must be merged into one pdf. This pdf should then be titled using the same naming convention described above (i.e. the next 4 digit 'A' number in sequence).

It is this final 'A' reference that must be provided to Tox Enablers, along with a completed Reporting Repository.

Upon completion, the Evaluator is responsible for saving a finalised Taiwan Reporting Repository in the Taiwan Reporting folder⁸.

All previous Taiwan Reporting Repositories are saved in the following folder on the H Drive:

<H:\Group\R&D\S&RA\Ings Comp Team\Disclosure RD158\2017\Taiwan\Tox Profiles>

⁷ <https://bat.sharepoint.com/:f:/r/sites/GBIN-CPS900/Shared%20Documents/Tox%20Reporting/Taiwan%20Reporting/Taiwan%2027A%27%20References?csf=1&web=1&e=uon5Cu>

⁸ <https://bat.sharepoint.com/:f:/r/sites/GBIN-CPS900/Shared%20Documents/Tox%20Reporting/Taiwan%20Reporting?csf=1&web=1&e=n4SkXb>

<https://bat.sharepoint.com/:f:/r/sites/GBIN-CPS900/Shared%20Documents/Tox%20Reporting/Taiwan%20Reporting?csf=1&web=1&e=G0DYdm>

Dermal/ Inhalation Carcinogenicity

Brief description of reference: N/A. No ingredient-specific reference identified.

Formal citation: N/A

'A' number designated: N/A

Inhalation Studies

Brief description of reference: N/A. No ingredient-specific reference identified.

Formal citation: N/A

'A' number designated: N/A

In vitro Toxicology

Brief description of reference:

The available in vitro genotoxicity data for propenyl guaethol (5-) include bacterial reverse mutation assays (Ames tests), mammalian cell mutation assays and an unscheduled DNA synthesis assay.

In bacterial systems, propenyl guaethol was negative for mutagenicity in *Salmonella typhimurium* strains TA98, TA100, TA1535, TA1537 and TA1538, both with and without metabolic activation, at concentrations up to 3.6 mg/plate. A second Ames assay was also negative at concentrations up to 1000 µg/plate.

In mammalian cells, propenyl guaethol produced positive results in a mouse lymphoma forward mutation assay using L5178Y TK+/- cells in the presence of metabolic activation, with concomitant cytotoxicity. However, the same assay was negative in the absence of metabolic activation. EFSA notes that positive findings in the mouse lymphoma assay are not consistent with the overall genotoxicity database and that the assay has limited specificity and is sensitive to non-genotoxic effects such as pH alterations and cytotoxicity.

An unscheduled DNA synthesis assay in primary rat hepatocytes was negative at concentrations of 1.01 to 50.4 µg/mL.

Overall, EFSA concluded that the available data and chemical structure do not raise a concern for genotoxicity, and RIFM concluded that propenyl guaethol is not genotoxic at current use levels

The clastogenic potential of propenylguaethol was assessed in an in vivo micronucleus test equivalent or similar to OECD TG 474, where A.M. Api et al. 4 groups of male and female mice were treated with a single dose (649, 1298, or 1947 mg/kg) of propenylguaethol in olive

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[CPS900/Shared%20Documents/Tox%20Reporting/Taiwan%20Reporting?csf=1&web=1&e=G0DYdm](https://bat.sharepoint.com/:f/r/sites/GBIN-CPS900/Shared%20Documents/Tox%20Reporting/Taiwan%20Reporting?csf=1&web=1&e=G0DYdm)

oil via intraperitoneal injection. Under the conditions of this study, propenylguaethol was considered non-clastogenic

Formal citation:

European Food Safety Authority (EFSA). Scientific Opinion on Flavouring Group Evaluation 81 (FGE.81): Consideration of hydroxypropenylbenzenes evaluated by JECFA (61st meeting) structurally related to 2-methoxy-4-(prop-1-enyl)phenyl 3-methylbutyrate from chemical group 17 evaluated by EFSA in FGE.30. EFSA Journal. 2010;8(11):1899.

'A' number designated:

A0698

Other Toxicological Information

Brief description of reference:

Propenyl Guaethol (CAS 94-86-0) was evaluated in a fragrance safety assessment that considered genotoxicity, repeated-dose toxicity, reproductive toxicity, skin sensitisation, local respiratory toxicity, photoirritation/photoallergenicity and environmental safety. Based on the available data and read-across from isoeugenol where appropriate, Propenyl Guaethol was not considered to present a genotoxicity concern. Skin sensitisation was identified as the critical toxicological endpoint, with a weight-of-evidence No Expected Sensitisation Induction Level (NESIL) of 2300 µg/cm². The substance was not expected to be photoirritating or photoallergenic, and exposure estimates for local respiratory toxicity were below the applicable TTC threshold.

Formal citation:

Api AM, Bartlett A, Belsito D, Botelho D, Bruze M, Bryant-Friedrich A, Burton GA, Cancellieri MA, Chon H, Cronin M, et al. (2026). Update to RIFM fragrance ingredient safety assessment, propenylguaethol, CAS Registry Number 94-86-0. Food and Chemical Toxicology. doi:10.1016/j.fct.2026.116280.

'A' number designated:

A0699

Pyrolysis

Brief description of reference: N/A. No ingredient-specific reference identified.

Formal citation: N/A

'A' number designated: N/A

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Reproductive & Developmental Toxicity

Brief description of reference: N/A. No ingredient-specific reference identified.

Formal citation: N/A

'A' number designated: N/A

Smoke Chemistry

Brief description of reference: N/A. No ingredient-specific reference identified.

Formal citation: N/A

'A' number designated: N/A

Toxicological Data on Unburnt Ingredient

Brief description of reference:

Propenylguaethol (CAS 94-86-0) was evaluated for genotoxicity, repeated-dose toxicity, reproductive toxicity, local respiratory toxicity, skin sensitisation, photoirritation/photoallergenicity and environmental safety. Available data and read-across information supported the conclusion that Propenylguaethol is not expected to present a genotoxicity concern. Skin sensitisation was identified as the most relevant toxicological endpoint, with a weight-of-evidence No Expected Sensitisation Induction Level (NESIL) of 2300 µg/cm². The assessment concluded that the existing information supports the use of this material as described in the safety evaluation.

Formal citation:

Api AM, Belsito D, Biserta S, Botelho D, et al. (2020). RIFM fragrance ingredient safety assessment, propenylguaethol, CAS Registry Number 94-86-0. Food and Chemical Toxicology, 146(Suppl 1):111776.

'A' number designated:

A0700

Transfer Studies

Brief description of reference: N/A. No ingredient-specific reference identified.

Formal citation: N/A

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'A' number designated: N/A

Addictive Properties

Brief description of reference: N/A. No ingredient-specific reference identified.

Formal citation: N/A

'A' number designated: N/A

Cardiovascular Toxicity

Brief description of reference: N/A. No ingredient-specific reference identified.

Formal citation: N/A

'A' number designated: N/A

List of Potential Sources of Reference

Below are two sections detailing potential sources of reference. The Primary Sources are those most likely to have a reference for individual ingredients for the sections above (Transfer Studies, Smoke Chemistry, etc). Other Sources are those from the standard Tox Data Repository template that *may* contain appropriate references.

The evaluator should not limit their search to the references cited in these sections. Search engines such as [Scopus](#) (free registration required), [PubMed](#), [Embase](#) (free registration required), [ScienceDirect](#) should also be used in the absence of data from references cited herein.

Using Advanced Search options, search strings such as "Chemical Name" AND "*in vitro*" should identify any suitable references if available (variations on search strings may be needed).

If references are identified from academic search engines, search strings should be documented in the appropriate sections above, as should formal citations.

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Primary Sources of Reference

Harm reduction in nicotine addiction, A report of the tobacco advisory group of the Royal College of Physicians, 2007.

Richard R. Baker, José R. Pereira da Silva, Graham Smith. The effect of tobacco ingredients on smoke chemistry. Part I: Flavourings and additives. Food and Chemical Toxicology, Volume 42, Supplement, 2004, Pages 3-37, ISSN 0278-6915.
<https://www.sciencedirect.com/science/article/abs/pii/S0278691503001893>

Richard R. Baker, José R. Pereira da Silva, Graham Smith. The effect of tobacco ingredients on smoke chemistry. Part II: Casing ingredients. Food and Chemical Toxicology. Volume 42, Supplement, 2004, Pages 39-52.
<https://www.sciencedirect.com/science/article/abs/pii/S0278691503002448>

Richard R Baker, Eian D Massey, Graham Smith. An overview of the effects of tobacco ingredients on smoke chemistry and toxicity. Food and Chemical Toxicology. Volume 42, Supplement, 2004, Pages 53-83.
<https://www.sciencedirect.com/science/article/abs/pii/S0278691504000043>

Richard R Baker, Louise J Bishop. The pyrolysis of tobacco ingredients. Journal of Analytical and Applied Pyrolysis. Volume 71, Issue 1, 2004, Pages 223-311, ISSN 0165-2370. <https://www.sciencedirect.com/science/article/abs/pii/S0165237003000901>

Richard R. Baker, Louise J. Bishop. The pyrolysis of non-volatile tobacco ingredients using a system that simulates cigarette combustion conditions. Journal of Analytical and Applied Pyrolysis. Volume 74, Issues 1-2, 2005, Pages 145-170, ISSN 0165-2370.
<https://www.sciencedirect.com/science/article/abs/pii/S0165237005000495>

Rodgman and Perfetti, The chemical components of tobacco and tobacco smoke, CRC Press, 2009. ISBN 978-1-4200-7883-1.

Smokeless tobacco and some tobacco-specific N-nitrosamines, IARC Monograph 89, 2007.

Tobacco smoke and involuntary smoking, IARC Monograph 83, 2004.

US Department of Health and Human Services. The Health Consequences of Smoking. Nicotine Addiction, A Report of the Surgeon General, US Government Printing Office, Washington DC, 1988.

<https://bat.sharepoint.com/:f/r/sites/GBIN-CPS900/Shared%20Documents/Tox%20Reporting/Taiwan%20Reporting?csf=1&web=1&e=G0DYdm>

Other Sources of Reference

Burdock GA (2010). Fenaroli's Handbook of Flavor Ingredients. 6th Edition. CRC Press, Boca Raton. ISBN 978-1-4200-9077-2.

California Office of Environmental Health Hazard Assessment (OEHHA) Proposition 65 list, Accessed [month-year]: <https://oehha.ca.gov/proposition-65/proposition-65-list>

European Chemicals Agency (ECHA). Accessed [month-year]: <https://echa.europa.eu/home>

European Chemicals Agency (ECHA). Authorisation List, Accessed [month-year]: <https://echa.europa.eu/authorisation-list>

European Chemicals Agency (ECHA). Candidate List of substances of very high concern (SVHC) for Authorisation, Accessed [month-year]: <https://echa.europa.eu/candidate-list-table>

European Commission list of flavourings and source materials as laid down in Part I of Annex I of Regulation (EC) No 1334/2008. Database, Accessed [month-year], available: https://webgate.ec.europa.eu/foods_system/main/?event=display

European Food Safety Authority (EFSA). Accessed [month-year]: <https://www.efsa.europa.eu/en>

European Medicines Agency (EMA). Medicines Database (2022), Accessed [month-year]: <https://www.ema.europa.eu/en/medicines>

European Union Regulation (EC) No 1334/2008 of the European Parliament and of the Council of 16 December 2008 on flavourings and certain food ingredients with flavouring properties for use in and on foods and amending Council Regulation (EEC) No 1601/91, Regulations (EC) No 2232/96 and (EC) No 110/2008 and Directive 2000/13/EC, Accessed [month-year]: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:32008R1334>

European Union Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004, Annex II, Accessed [month-year]: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32011R1169>

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Endocrine Disruptor Lists (2022). Last updated Apr-2022: <https://edlists.org/the-ed-lists/list-i-substances-identified-as-endocrine-disruptors-by-the-eu>

Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS). Accessed [month-year]: https://iris.epa.gov/AtoZ/?list_type=alpha

Flavor and Extract Manufacturers Association of the United States (FEMA). Flavor Ingredient Library, Accessed [month-year]: <https://www.femaflavor.org/flavor-library>

Institute for Occupational Safety and Health of the German Social Accident Insurance (GESTIS) Database. Last updated May 2022: <https://limitvalue.ifa.dguv.de/>

International Agency for Research on Cancer (IARC) list of classifications, Volumes 1-132, Accessed [month-year]: <https://monographs.iarc.who.int/list-of-classifications>

Joint FAO/WHO Expert Committee on Food Additives (JECFA) Portal, Accessed [month-year]: <https://apps.who.int/food-additives-contaminants-jecfa-database/>

National Toxicology Program (NTP). Fifteenth Report on Carcinogens (RoC), last updated 21 December 2021: <https://ntp.niehs.nih.gov/whatwestudy/assessments/cancer/roc/index.html>

United States Food & Drug Administration (US FDA) Substances Added to Food inventory. Last updated 13 October 2022: <https://www.accessdata.fda.gov/scripts/fdcc/?set=FoodSubstances>